No.01

Oki Data CONFIDENTIAL

FX-046VP
FACSIMILE
TRANSCEIVER
Maintenance Manual

[Rev. 3]

Related drawings

Drawing No.	Name
42330301TL	FX-046VP FACSIMILE TRANSCEIVER Disassembly for Maintenance
42330301TR	FX-046VP FACSIMILE TRANSCEIVER RSPL

BOM		Use for		Certification Body	
Rev	Date	DCO No.	Contents	Design	Approval
3	2004-05-14	HP9-0006	Change format	Tomoyo Sugiyama	Akio Kikuchi

Approval: Akio Kikuchi	Design: Tomoyo Sugiyama	Name: FX-046VP FACSIMILE TRANSCEIVER Maintenance Manual
Check: Yoshinori Fujisawa		
Date: 2004-05-14	Oki Data Corporation	Drawing No. 42330301TH

Document Revision History

Rev.No.	Date	Corrected items			Person in charge
		Section	Page	Description of change	
1	2002-11-06			ISSUE	H. Nonaka
2	2003-02-19			Addition of EN2 board	H. Nonaka
3	2004-05-14			Harmonization of the revision number for the new system.	EP Sugiyama

PREFACE

This manual is intended to be used for installing and maintaining FX-046VP facsimile transceiver.

Maintenance of the FX-046VP is assumed to be conducted at the following levels:

- Assembly-level maintenance for mechanical portions
- Unit-level maintenance for electrical at portions

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS
and
ATTENTION: IL Y A DANGER D'EXPLOSION S'IL Y A REMPLACEMENT INCORRECT DE LA BATTERIE. REMPLACER UNIQUEMENT AVEC UNE BATTERIE DU MEME TYPE OU D'UNT TYPE RECOMMANDE PAR LE CONSTRUCTEUR. METTRE AU REBUT LES BATTERIES USA GEES CONFORMEMENT AUX INSTRUCTIONS DU FABRICANT.

Programming procedures of the following user's functions are not described in this maintenance manual.
Please refer to user's guide.

- One-touch key programming
- Two-digit auto dial programming
- Group setting
- Programming mail box password
- Memory operation

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1. GENERAL INFORMATION

1.1 General Performance

(1) Type of appearance
- Desktop type

(2) Applicable lines
- Public switched telephone network (PSTN)
- Private branch exchange (PBX)
- ISDN (Integred service digital network)
- Internet FAX (via Internet)

Note: ISDN and Internet Fax are option

(3) Compatibility
- ITU-T Group 3 facsimile transceiver
- ITU-T Group 4 facsimile transceiver (option)

(4) Document width
- Max. 216 mm (NA Letter)
- Min. 148 mm (ISO A5 size)

(5) Effective reading width

TX
- Max. 215 mm (NA Letter)
- Max. 208 mm (ISO A4 size)

COPY
- 203.2 mm (NA Letter)
- 203.2 mm (ISO A4 size)

(6) Scanning length
- 128 mm to 356 mm

(Length setting: Unlimited (1500mm) is also available.)

(7) Automatic document feeder (ADF)
- 20 sheets (NA Letter/A4-size: 20-1b bond/75 gm. Oki Data recommended paper)
- 15 sheets (NA Letter/A4-size: 16 to 28-1b bond/60-105 gm)

Note: NA is North America

(8) Recording paper or sheet

• 1st tray:	NA Letter/NA Legal/A4-size plain paper cut 100 sheets capacity (20-1b bond*)
• Manual paper feeder:	Transparency for overhead projector, applicable. Sheet size: NA Letter/NA Legal/A4-size

*: Oki Data recommended paper

(9) Printable width
- NA Letter: 203.2 mm (203.2 mm for assured quality)
- NA Legal: 203.2 mm (203.2 mm for assured quality)
- ISO A4: 203.2 mm (197.3 mm for assured quality)

(10) Printable length
- NA Letter: 273.4 mm (266.7 mm for assured quality)
- NA Legal: 349.6 mm (342.9 mm for assured quality)
- ISO A4: 291.0 mm (284.3 mm for assured quality)

(11) Copy stacker
- Max. 30 sheets (Faceup stacking)

*: Oki Data recommended paper

(12) Scanning resolution

a) Horizontal:

• 300 dot/inch or interpolated 600 dpi

Note 1: In the local COPY mode at standard (STD) resolutions, the dpi conversion is done from 300 dot/inch to 200 dot/inch.

b) Vertical:

Transmission mode: 3.85 line/mm (STD), 7.7 line/mm (FINE), 15.4 line/mm (EX.FINE), 300 dot/inch (EX.FINE) or 600 dot/inch (EX.FINE)

COPY mode: 3.85 line/mm (STD), 7.7 line/mm (FINE) or 15.4 line/mm (EX.FINE)

Note: 300 dpi × 300 dpi or interpolated 600 dpi × 600 dpi: Transmission is available.

(13) Scanning method

• 2592 bits contact image sensor

(14) Recording resolution

a) Horizontal:

• 300 dot/inch or quasi 600 dot/inch

b) Vertical:

Variable: Automatically adjusted to the paper length.
(784 to 1076 dot/inch), (300 to 395 dot/inch), STD mode (3.85 to 5.06 line/mm) and FINE mode (7.7 to 10.13 line/mm) and EX-FINE mode (15.4 to 20.24 line/mm)

Fixed:

STD mode:	3.85 line/mm
FINE mode:	7.7 line/mm
EX-FINE mode:	15.4 line/mm
	300 dot/inch

(15) Recording method

• 211.3 mm (2496 bits) and/or 216.7 mm (2560 bits) LED print head

(16) Minimum scan line time for reception

• When receiving from OKIFAX or ECM:	0 ms
• When receiving from non- OKIFAX and non ECM:	10 ms at 3.85 line/mm
	5 ms at 7.7 line/mm, 15.4 line/mm

(17) Print speed

• Max. 8 sheets per minute (at NA letter size)

(18) Pre-heating time

• Approx. 30 sec. (Standby to Print)

Note: This feature is not available FX-046VP for ODA version.

(19) Coding scheme

• Modified Huffman (MH)
• Modified READ (MR)
• Modified Modified READ (MMR)

(20) Modem
- ITU-T Rec. V.29:
- ITU-T Rec. V.27 ter:
- ITU-T Rec. V.21 channel 2:
- ITU-T Rec. V.17:
- ITU-T Rec. V.34:
- ITU-T Rec. V.33:

(21) Transmission speed
- 3 sec. (approx 3.2 sec) per sheet of ITU-T No. 1 evalution test chart

Note: This is Phase C time at 3.85 line/mm and 33600 bps for 3 sec. in MMR code transmission.

(22) Protocol
- ITU-T Rec. T.30
- ITU-T Rec. G4 class 1 (option)
- OKI special protocols: High-speed protocol (G3)

(23) Error correction scheme
- ITU-T ECM

(24) Communication mode
- Half duplex

(25) Image memory
- Basic model: 4M byte

(26) Liquid crystal display (LCD)
- Two rows of 20 characters for operation guidance, check and various kinds of information

(27) Power source
- Nominal input voltage 120 VAC for ODA version
- Nominal input voltage 230 VAC for INT'L version

(28) MFP (Multi- Function Peripheral) functions:
PC Printer Function
PC Scanner Function
PC Fax Modem Function
Location Programing Function

Note: For details, see "Product Specification for MFP"

(29) Internet FAX functions:
- Capable of Internet fax (ITU-T T.37) reception and transmission.
- Capable of changing read side to a PDF file and sending by e-mail.

Note: For details, see Appendix H "Internet FAX function".

1.2 General User's Functions

(1) Transmit mode
- Automatic transmit mode
- Manual transmit mode

(2) Receive mode
- Automatic receive mode
- Manual receive mode
- TEL/FAX automatic switchover mode
- TAD mode
- Memory only receive mode
- Forwarding mode
- PC receive mode

(3) Instant dial

(4) Advanced T.30 protocol

(5) Dual access

(6) Automatic redial

(7) Last number redial (Manual redial)

(8) Local copy of a document, including multiple copies
- 50 copies max.

(9) Sender identification (Sender ID)

(10) Personal identification (Personal ID)

(11) Polling transmission
- Feeder Polling transmission
- Memory Polling transmission

(12) Polling reception

(13) Bulletin polling

(14) Acoustic line monitor

(15) Automatic alternate selecting call (FAX No. + FAX No. can be registered in one-touch keys).

(16) Delayed transmission (Max. 3 days)
- Delayed broadcast
- Delayed transmission
- 10 Specified times

(17) Relay broadcast initiate

(18) Confidential message transmission

(19) Confidential message reception
8 mail boxes

(20) PHOTO mode (at FINE resolution)
64 scale gradations

(21) G3 sequential broadcast (Memory)
- Broadcast mode
  120 stations at maximum
- Delayed broadcast mode

(22) No paper/no toner reception

(23) Memory-only reception
(Memory reception even if paper does not run out)

(24) Distinguishing text from picture

(25) Page re-transmission (Only in case of memory TX mode)

(26) Vertical reduction printing (Reduction rate is from 100% to 75%)

(27) Horizontal reduction (RX, copy : Reduction rate is from 93% to 98%)

(28) Smoothing printing (In case of 8 dots/mm $\times$ 3.85, 7.7 or 15.4 lines/mm $\rightarrow$ 300 dot/inch $\times$ 784 line/inch)
- Turns off in the PC print mode.

(29) Programmed key operation (“F” key + “OT” key)

(30) Auto dialing

• One-touch dialing	10 locations
• Two-digit automatic dialing	100 locations
• Keypad dialing	
• Chain dialing	
• Mixed dialing	
• Group dialing	10 groups

(31) Real-time dialing
Dialing with telephone off the hook or when the Hook key is pressed.

(32) Automatic pause signal insertion

(33) Manual feeder local copy

(34) Telephone directory (Alpha search) dialing

(35) TEL/FAX automatic switching

(36) Time and date printing

(37) Closed users group (Direct mail rejection)

(38) Transmission contrast and resolution control

(39) Key touch tone

(40) Printer counter display (For drum, toner, total print)

(41) Total page counter (Scan)

(42) Quick scanning 6 sec. minimum $\rightarrow$ A4 size 3.85 Line/mm

(43) Time and date setting

(44) PC interface
- CT2 (Bi-Centro) Board is needed.

(45) Language selection
- Max 5 languages (LCD and Reports)

(46) Reports
- Activity report
- Active memory files report
- Protocol report
- Message confirmation report (Single address and multiple addresses)
- Broadcast entry report (Broadcast)
- Broadcast confirmation report
- Transmission error report
- Confidential reception report
- Configuration report
- Telephone directory
- Power outage report
- Log.report (service bit=ON)
- G4 Log.report (service bit=ON)

(47) Restricted access

(48) Continuous alarm tone

1.3 General Maintenance Functions

1) Local tests
   (1) Self-diagnosis
   - CPU ROM/RAM check
   - FLASH memory check (Program, Language, Default)
   - RAM check
   - Print test

   (2) Sensor calibration (Adjustment of scanning level)

   (3) LEDs test

   (4) Tone send test (When NCU board is installed.)

   (5) Multi-frequency (MF) send test (When NCU board is installed.)

   (6) High-speed modem send test (When NCU board is installed.)

   (7) High-speed modem receive test (When NCU board is installed.)

   (8) Tone (TEL/FAX) test (When NCU board is installed.)

   (9) Loop back 1 (When G4 option board is installed.)

   (10) Loop back 2 (When G4 option board is installed.)

   (11) INFO 0 sending (When G4 option board is installed.)

   (12) INFO 1 sending (When G4 option board is installed.)

   (13) INFO 3 sending (When G4 option board is installed.)

   (14) Pulse (1KHz) send (When G4 option board is installed.)

   (15) Pulse (2KHz) send (When G4 option board is installed.)

   (16) Pulse (N2KHz) send (When G4 option board is installed.)

2) Technical function

3) System reset
   - All data clear
   - Location data clear
   - Configuration data clear

4) Default type set

5) PC loading

6) G4 PC loading

1.4 General Appearance

Figure 1.1 shows the general appearance.
Figure 1.2 shows the control panel.

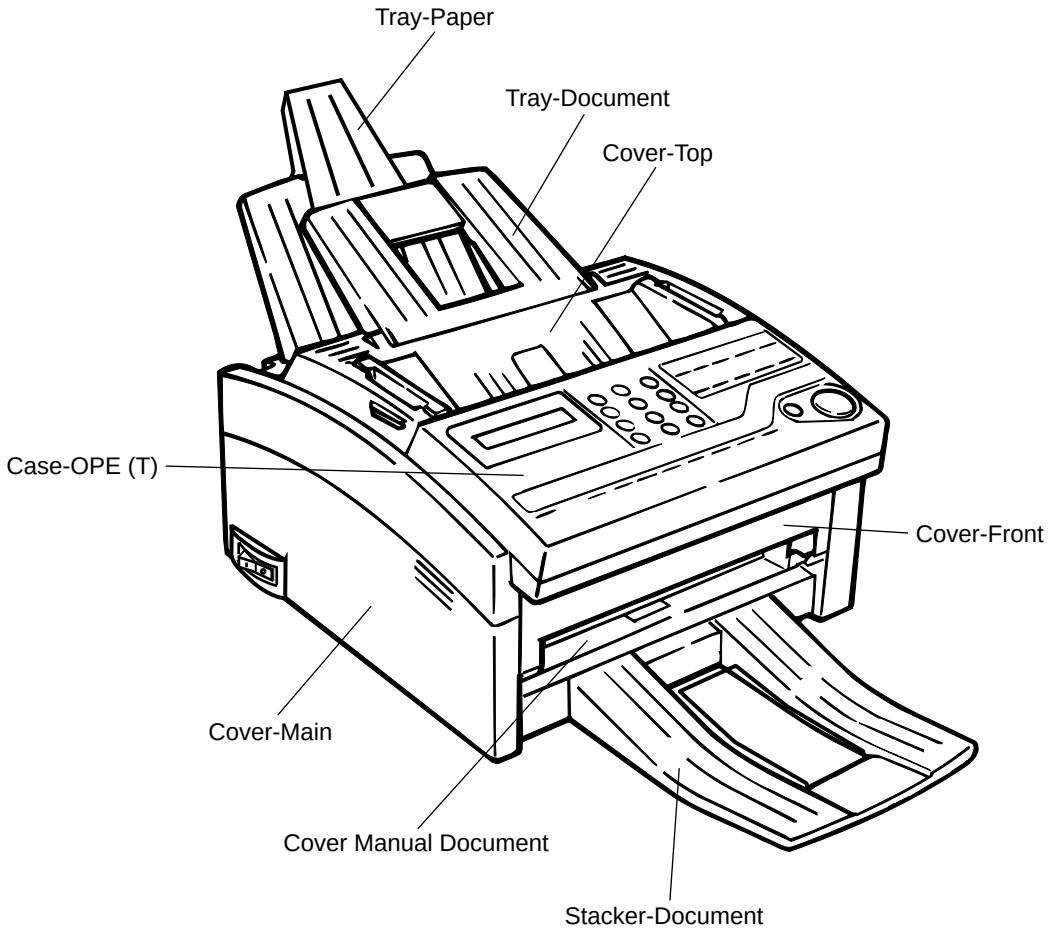


Figure 1.1 General Appearance

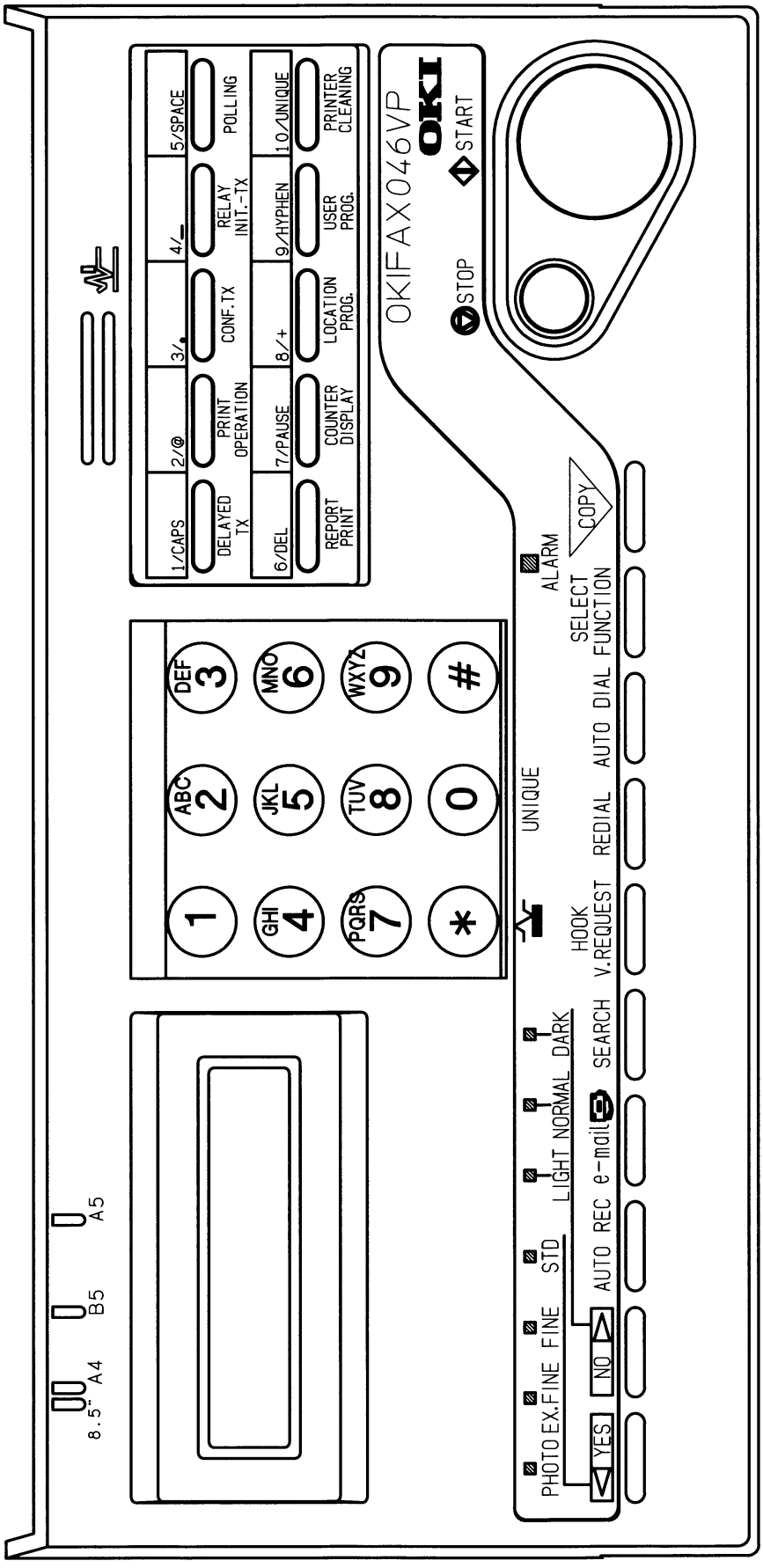


Figure 1.2 Control Panel

1.5 Basic Performance Specifications

Table 1.1 shows basic performance specifications.

Note: TF: Technical function setting
FP: Function program setting
OT: One-touch key pressed
F: SELECT FUNCTION key pressed

Table 1.1 (1/10) Basic Performance Specifications

No.	Item	Specifications
1	Applicable line	1) Public switched telephone network (PSTN) 2) Private branch exchange (PBX) (OT9+2)
2	Line interface 1) Impedance	600Ω balanced ***Note:*** Impedance may differ by the requirement of PTT.
	2) Sending power level	0 dBm to –15 dBm range (Adjustable in 1 dB steps. TF + 21)
	3) Receiving power level	0 dBm to –40 dBm or -6 dBm to -43 dBm: for V.17, V29 and V.27 ter. (In case of V.34 TX/RX, -3dBm to -36dBm)
3	Type of document to be transmitted 1) Width	Max. 216 mm (NA Letter) Min. 148 mm (ISO A5 size) ***Note:*** Effective reading width is NA Letter (215 mm).
	2) Length	Min. 128 mm Max. 356 mm (14 inches) Long document detection: 380 mm, or 1500 mm * TF + 10 (To enable or disable the long document scanning)
	3) Thickness	Based on common bond paper a) 0.08 to 0.13 mm for multiple page feeding b) 0.06 to 0.15 mm for single page feeding
	4) Shape	Rectangular
	5) Opacity	Documents allowing less than 40% of the scanner source light to pass through them.

Table 1.1 (2/10) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>4</td><td>Effective reading width</td><td>
<table>
<tr><th>Document width</th><th>Communication Mode/Paper width</th><th>Effective reading width</th><th>Copy size</th></tr>
<tr><td>ISO A4 (210 mm) [INT'L/FTZ]</td><td>G3/A4</td><td>208 mm for TX
203.2 mm for local copy
(208 mm for local copy with Horizontal Reduction = ON)</td><td>A4</td></tr>
<tr><td>NA letter (216 mm) [US/CANADA]</td><td>G3/A4</td><td>215 mm for TX
203.2 mm for local copy
(214 mm for local copy with Horizontal Reduction = ON)</td><td>Letter</td></tr>
<tr><td>NA legal (216 mm) [US/CANADA]</td><td>G3/A4</td><td>215 mm for TX
203.2 mm for local copy
(214 mm for local copy with Horizontal Reduction = ON)</td><td>Legal</td></tr>
</table>
Note: Local copy: Printable reading width in local copy mode
</td></tr>
<tr><td>5</td><td>Automatic document feeder (ADF)</td><td>Max. 20 documents: NA Letter or A4 (20-1b/75 gm)
Max. 15 documents:
NA Letter or A4 (16-28 lb/60-105 gm bond paper)

Documents shall be placed facedown on ADF stacker. The first sheet will be fed first in the feeder and will exit facedown in the document stacker.</td></tr>
<tr><td>6</td><td>Document skew</td><td>Max. 1 mm skew over any advance of 100 mm. The occurence of skew exceeding 1 mm per 100 mm shall be 0.5% or less.</td></tr>
<tr><td>7</td><td>Document jam detection</td><td>1) Transmission will stop and line disconnection will occur when the end of a document is not detected within 356 mm after scanning begins (except for the long document scanning. TF + 10)

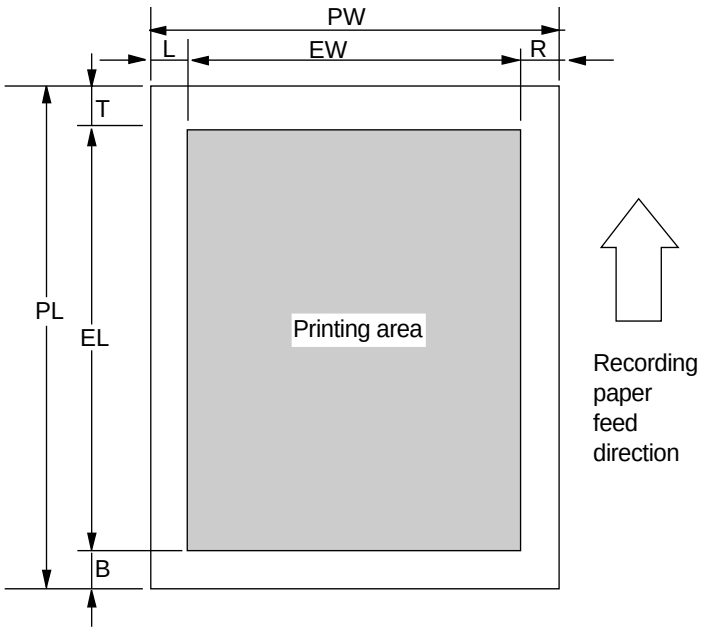
2) A jam will also be declared if the document does not reach the scanning position within 10 seconds after the start of a document feed.

Note: When a jam is detected during message transmission from the feeder, the machine will stop scanning and disconnect the line, but its receiving capability will remain valid.</td></tr>
<tr><td>8</td><td>Document jam removal</td><td>Manual release</td></tr>
</table>

Table 1.1 (3/10) Basic Performance Specifications

No.	Item	Specifications
9	Recording paper or sheet	For tray-paper: 1) Type: Plain paper cut (Bond paper) 2) Size: ISO A4 (210 mm × 297 mm) NA Letter (215.9 mm × 279.4 mm)/(8.5 inch × 11 inch) NA Legal (215.9 mm × 355.6 mm)/(8.5 inch × 14 inch) 3) Weight: 16 lb-24 lb/60-90 gm base weight Base weight is defined as the weight of 500 sheets of 431.8 mm (17 inch) by 558.8 mm (22 inch) or 1 sheet size 1000 mm by 1000 mm. 4) Thickness: 0.08 mm to 0.12 mm 5) Condition: New paper For the manual loading feeder 1) Type: Plain paper, transparency for overhead projector, colored paper, printed paper 2) Size: A4/NA Letter/NA Legal 3) Weight, thickness and condition: Same as above ***Note:*** One single sheet should be loaded on the manual paper feeder for one occasion. For best results use Oki Data recommended papers 1) Xerox 4200 (20 - lb/75 gm base weight paper) 2) L-type paper for photo-printers
10	Recording paper cassette	100 sheets/tray (Oki Data recommended paper)

Table 1.1 (4/10) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>11</td><td>Effective recording area</td><td>


Note: These tables do not include vertical and horizontal addressing deviations (+ or -3 mm) of recording paper.

1) Printable area
<table>
<tr><th></th><th colspan="2">NA LETTER SIZE</th><th colspan="2">ISO A4 SIZE</th><th colspan="2">14 inch LEGAL SIZE</th><th colspan="2">13 inch LEGAL SIZE</th></tr>
<tr><th></th><th>inch</th><th>mm</th><th>inch</th><th>mm</th><th>inch</th><th>mm</th><th>inch</th><th>mm</th></tr>
<tr><td>PL</td><td>11</td><td>279.4</td><td>11.7</td><td>297</td><td>14</td><td>355.6</td><td>13</td><td>330.2</td></tr>
<tr><td>PW</td><td>8.5</td><td>216</td><td>8.27</td><td>210</td><td>8.5</td><td>216</td><td>8.5</td><td>216</td></tr>
<tr><td>EL</td><td>10.76</td><td>273.4</td><td>11.46</td><td>291</td><td>13.76</td><td>349.6</td><td>12.76</td><td>324.2</td></tr>
<tr><td>EW</td><td>8.0</td><td>203.2</td><td>8.0</td><td>203.2</td><td>8.0</td><td>203.2</td><td>8.0</td><td>203.2</td></tr>
<tr><td>T</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td></tr>
<tr><td>B</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td></tr>
<tr><td>L</td><td>0.25</td><td>6.35</td><td>0.13</td><td>3.4</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
<tr><td>R</td><td>0.25</td><td>6.35</td><td>0.13</td><td>3.4</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
</table>
2) Guaranteed printing area
<table>
<tr><th></th><th colspan="2">NA LETTER SIZE</th><th colspan="2">ISO A4 SIZE</th><th colspan="2">14 inch LEGAL SIZE</th><th colspan="2">13 inch LEGAL SIZE</th></tr>
<tr><th></th><th>inch</th><th>mm</th><th>inch</th><th>mm</th><th>inch</th><th>mm</th><th>inch</th><th>mm</th></tr>
<tr><td>PL</td><td>11</td><td>279.4</td><td>11.7</td><td>297</td><td>14</td><td>355.6</td><td>13</td><td>330.2</td></tr>
<tr><td>PW</td><td>8.5</td><td>216</td><td>8.27</td><td>210</td><td>8.5</td><td>216</td><td>8.5</td><td>216</td></tr>
<tr><td>EL</td><td>10.5</td><td>266.7</td><td>11.2</td><td>284.3</td><td>13.5</td><td>342.9</td><td>12.5</td><td>317.5</td></tr>
<tr><td>EW</td><td>8.0</td><td>203.2</td><td>7.77</td><td>197.3</td><td>8.0</td><td>203.2</td><td>8.0</td><td>203.2</td></tr>
<tr><td>T</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
<tr><td>B</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
<tr><td>L</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
<tr><td>R</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
</table>
</td></tr>
<tr><td>12</td><td>Copy stacking</td><td>The fax can discharge printed copies and stack them faceup.
Maximum sheets on the copy stacker: 30*

Note*: Oki Data recommended paper</td></tr>
</table>

Table 1.1 (5/10) Basic Performance Specifications

No.	Item	Specifications
13	Scanning resolution	Horizontal: • 300 dot/inch or interpolated 600 dpi ***Note :*** In the local copy at standard (STD) resolution the dpi conversion is done from 300 dot/inch to 200 dot/inch. Vertical: Transmission mode: • 3.85 line/mm (STD), 7.7 line/mm (FINE), 15.4 line/mm (EX.FINE), 300 dot/inch (EX.FINE) or 600 dot/inch (EX.FINE) ***Note:*** 300 dpi × 300 dpi or interpolated 600 dpi × 600 dpi: Transmission is available COPY mode: • 3.85 line/mm, 7.7 line/mm, 15.4 line/mm.
14	Image scanning method	NA Letter size (2592-bit) contact image sensor
15	Contrast control	1) Automatic background sensing A continuous document background of 0.3 OD (optical density) or less will be transmitted as white. 2) The LIGHT and DARK contrasts will automatically be adjusted to improve image quality. Slice level shifting has 3 levels of switch selection on operation panel.
16	Recording resolution	Horizontal: • 300 dot/inch or quasi 600 dot/inch Vertical: Fixed: 3.85 line/mm (STD), 7.7 line/mm (FINE), 15.4 line/mm (EX-FINE) 300 dot/inch (EX-FINE) Variable: Automatically adjusted to the paper length. • 784 to 1076 dot/inch • 300 to 412 dot/inch • 3.85 to 5.06 line/mm (STD) • 7.7 to 10.13 line/mm (FINE) • 15.4 to 20.24 line/mm (EX. FINE)
17	Recording system	Electro-photographic printing 1) 211.3mm (2496 bit) or 216.7mm (2560 bit) LED print head
18	Skew of recording paper	Maximum allowable skew is + or - 1 mm over an advance of 100 mm.
19	Copy darkness	1) Black image: Greater than 1.2 OD (Optical density) 2) White background: Not greater than 0.2 OD (Optical density)
20	Copy uniformity	Printed copies will exhibit a uniform density of the printed and background area: 1) From edge to edge: 25% 2) From copy to the next copy: 30%

Table 1.1 (7/10) Basic Performance Specifications

No.	Item	Specifications
21	Recording paper running out	The fax can detect the no-paper condition by a photosensor. When the paper has run out in the local copy operation, the scanning will stop with "PAPER OUT/JAM" on the LCD and an ALARM LED turns on without an alarm tone. When the paper has run out while a message is being received and the no-paper reception is activated, the LCD display will show "MSG. IN MEMORY", and the ALARM LED turns on.
22	Minimum scan line time for receiving	0 ms, when receiving in ECM mode or from an Oki Data facsimile. 5 ms at 15.4 line/mm or 7.7 line/mm and 10 ms at 3.85 line/mm when receiving from a non-Oki Data facsimile or non-ECM mode.
23	Coding scheme	1) One-dimensional coding scheme: Modified Huffman (MH) 2) Two-dimensional coding scheme: Modified READ (MR) Modified modified READ (MMR)
24	MODEM 1) High-speed Modem	a) ITU-T Rec. V.29 (9600/7200 bps) b) ITU-T Rec. V.27 ter (4800/2400 bps) c) ITU-T Rec. V.17 (14400/12000/9600/7200 bps) d) ITU-T Rec. V.33 (14400/12000 bps) e) ITU-T Rec. V.34 (33600/28800 bps)
	2) Low-speed Modem	ITU-T Rec. V.21 channel 2 (300 bps)
	3) ISDN G4	ITU-T Rec. T.563, T.521, T.503, T.62, T.6, T.70
25	Fallback	Automatic fallback will occur according to the following sequence by FTT, RTN or PPR.

Fallback rank	Transmission speed	Activated by FTT (Times)	Activated by RTN (Times)	Activated by PPR (Times)	Protocol
1st	14400 bps	1	1	4 (Note 1)	ITU-T V.17 (V.17)
2nd	12000 bps	1	1	4 (Note 1)	ITU-T V.17 (V.17)
3rd	9600 bps	1	1	4 (Note 1)	ITU-T V.17 (V.29)
4th	7200 bps	1	1	4 (Note 1)	ITU-T V.17 (V.29)
5th	4800 bps	2	1	4 (Note 1)	ITU-T V.27 ter.
6th	2400 bps	2	1	4 (Note 1)	ITU-T V.27 ter.

When the last trial fails, the transmitting station sends out a DCN signal to the remote station for disconnection.

Note 1: Continuous PPRs for the same partial page within each fallback rank.

2: V.34 fallback sequence
The modem automatically selects transmission speed according to the line condition.

Table 1.1 (8/10) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>26</td><td>Protocol</td><td>1) ITU-T Rec. T.30
2) Oki Data special protocol
High-speed protocol
The T.30 protocol signal from the transmitting station is sent at message transmission speed instead of 300 bps. (This function is disable when the H/Modem rate is set to 9.6 kbit/s by TF No.13)
Note : In Hihg-speed protocol, V.34 is not applied.

3) ITU-T G4 class 1 (option)</td></tr>
<tr><td>27</td><td>Transmission time</td><td>3 sec.(approx 3.2 sec) /ITU-T No. 1 evalution test chart

Note: This is Phase C time at 3.85 line/mm and 33600 bps for 3 sec. in MMR code transmission.
Sender ID is not added to the sending data.</td></tr>
<tr><td>28</td><td>Error correction scheme</td><td>ITU-T ECM defined in T4, T30 are providrd.
This should be applicable to MH, MR and MMR coding schemes.</td></tr>
<tr><td>29</td><td>Communication mode</td><td>Half-duplex</td></tr>
<tr><td>30</td><td>Ringing signal detection sensitivity
1) Voltage range</td><td>
25 to 150 V r.m.s.
Inoperative below 10 V

Note: This range may differ by the requirement of PTT.</td></tr>
<tr><td></td><td>2) Frequency range</td><td>20 to 68 Hz

Note: This range may differ by the requirement of PTT.</td></tr>
<tr><td></td><td>3) Ring response time</td><td>One-ringing signal or 5 to 20 seconds.
(Selectable in 5 sec. steps. F + OT9 + ← + 11)</td></tr>
<tr><td>31</td><td>Image memory</td><td><table><tr><th>Memory condition</th><th>[pages]</th></tr><tr><td>Standard (4M-byte)</td><td>320</td></tr></table>Note: ITU-T No.1 sample document is used to count the number of sheets. (MMR/STD/Sender ID : off)

Note: FX-046VP does not back up the message received in memory for the power failure.</td></tr>
<tr><td>34</td><td>Overheat protection</td><td>The heater of the fuser unit is controlled within the predetermined temperature range by the thermistor. If the temperature of the heater exceeds the range, the LCD displays “PRINTER ALARM 4”.

Furthermore, the built-in thermostat in the fuser unit prevents the heater from being overheated even in the event of the failures in the above temperature control circuit.</td></tr>
</table>

Table 1.1 (9/10) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>35</td><td>PC interface applications (Option)</td><td>The following four modes are supported:
1) PC local printer function
2) PC scanner function
3) PC FaxModem function
4) Location Programing function

Note: This function will be supplied as the FX-046VP option in case Oki Data can get the approval in respective countries without modifying the optional unit. (Hardware and software is option for Bi-centro interface.)

For details, see product specification for MFP.</td></tr>
<tr><td>36</td><td>Internet FAX function (Option)</td><td>1) Capable of Internet fax (ITU-T T.37) reception and transmission.
2) Capable of changing read side to a PDF file and sending by e-mail.
For details, see Appendix I "Internet FAX Fucntion".</td></tr>
<tr><td>37</td><td>Power supply unit and Power consumption of the machine</td><td>Power consusmption of the machine (Typical power)

(1) US/CANADA Versions
<table><tr><th>Mode</th><th>Typical Power</th><th>Max. Power</th></tr><tr><td>Transmit</td><td>16W</td><td>18W</td></tr><tr><td>Receive</td><td>104W</td><td>115W</td></tr><tr><td>Local copy</td><td>141W</td><td>157W</td></tr><tr><td>Standby</td><td>5.4W</td><td>6.1W</td></tr></table>
(2) INT’L Versions
<table><tr><th>Mode</th><th>Typical Power</th><th>Max. Power</th></tr><tr><td>Transmit</td><td>18W</td><td>20W</td></tr><tr><td>Receive</td><td>102W</td><td>112W</td></tr><tr><td>Local copy</td><td>143W</td><td>157W</td></tr><tr><td>Standby</td><td>6.5W (0.35W)</td><td>7.7W (0.46W)</td></tr></table>( ): Power save mode = ON
*Chart: ITU-T No. 1</td></tr>
</table>

Table 1.1 (10/10) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>38</td><td>Ambient condition</td><td>• Humidity
The machine will operate as specified at relative humidities in the range of 20 percent to 80 percent (non-condensing). Operation outside this range will be subject to the limitations shown in Table Temperature and Himidity.
• Temperature
The machine will operate as specified in the temperature range of 10 Celsius to 32 Celsius. Operation outside this range will be subject to the limitations shown in Table Temperature and Humidity.</td></tr>
<tr><td></td><td colspan="2">Table Temperature and Humidity
<table>
<tr><th></th><th>In operation</th><th>Power off mode</th><th>During Storage</th><th>Unit</th></tr>
<tr><td>Temperature</td><td>50 - 90
(10 - 32)</td><td>32 - 110
(0 - 43)</td><td>14 - 110
(-10 - -43)</td><td>°F
(°C)</td></tr>
<tr><td>Humidity</td><td>20 - 80</td><td>10 - 90</td><td>10 - 90</td><td>%RH</td></tr>
<tr><td>Maximum wet bulb temperature</td><td>77
(25)</td><td>80.4
(26.8)</td><td>—</td><td>°F
(°C)</td></tr>
<tr><td>Minimum difference between wet and dry bulb temperatures</td><td>35.6
(2)</td><td>35.6
(2)</td><td>—</td><td>°F
(°C)</td></tr>
</table>
1. Storage conditions specified above apply to the machine in packed condition.
2. Temperature and humidity must be in the range where no condensation occurs.</td></tr>
<tr><td>39</td><td>Dimension
(Main body)</td><td>1) Width: Approx. 316 mm
2) Depth: Approx. 383 mm
3) Height: Approx. 190 mm</td></tr>
<tr><td>40</td><td>Weight
(Main body)</td><td>Approx. 8 kg
Excluding recording paper and packing materials.</td></tr>
<tr><td>41</td><td>Attachment
(to the main body)</td><td>1) AC power cord × 1
2) I/D unit × 1 (Already installed)
3) Toner cartridge × 1
4) Tray - Paper
5) Tray - Document
6) Document stacker × 1
7) Line cord × 1
8) One touch sheet × 1 (Already installed)
9) User's guide × 1</td></tr>
</table>

1.6 Reports and Lists

Table 1.2 shows Reports and Lists Specifications.

Note: F +OT: Press FUNCTION and One-touch key
FP: Function program setting
TF: Technical function setting

Table 1.2 (1/2) Reports and Lists Specifications

No.	Item	Specifications
1	Call-back message	The transmitter sends a call-back message to the receiver only when the receiver does not respond to voice request of the transmitter.
2	Sender ID	The fax can transmit a programmed alphanumeric message, such as company's name, consisting of up to 32 characters. * (Outside only)
3	Transmitting subscriber identification(TSI) printing	Received TSI can be printed at the top of the received page. * TF + 05 (To enable or disable this function)
4	Cancel report (Power outage report)	The fax will automatically print out a power outage report when the AC power is restored after the power fuilure.
5	Activity report	The fax can print out an activity report manually, and provides a record of your fax machine's last 50 communications. * REPORT PRINTOUT+1(Manual printout)
6	Message confirmation report	The fax can print out a message confirmation report manually or automatically in the following cases. (1) Manual print By pressing the COPY key after a communication (2) Automatic printout When the FP+01 (to enable or disable automatic printing after a communication) is set to Enable.
7	Broadcast entry report	The fax can print out a broadcast entry report if specified during operating sequence of a broadcast.
8	Broadcast confirmation report	The fax can print out a broadcast confirmation report manually or automatically. * COPY key (Manual printout): Pressed after a broadcast. * REPORT PRINTOUT + 2 (Manual printout) * FP +02 (To enable or disable automatic printing)
9	Confidential reception report	The fax can print out this report automatically on completion of a confidential reception.
10	Memory files report	Printing the list of received but not printed yet documents and waiting documents for transmission stored in the memory. * REPORT PRINTOUT + 3 (Manual printout)
11	Telephone directory	This directory is printed manually. (REPORT PRINTING + 4)

Table 1.2 (2/2) Reports and Lists Specifications

No.	Item	Specifications
12	Configuration report	This report is printed manually. (REPORT PRINTING + 5)
13	Active memory files	This report will be manually or automatically printed out for information of transmission/reception data stored in the memory. When there is no stored image data in the memory at all, the Active memory files is not printed out. (REPORT PRINTING +3)
14	Protocol dump (G3)	This report will be manually printed out for maintenance purpose. If the previous communication is G3, G3 communication protocol dump is printed out. (REPORT PRINTING +6)
15	Self-diagnosis report	This report will be manually printed out for maintenance purpose. (LOCAL TEST +1)
16	Log report	This report will be manually printed out for fault analysis (Operation is possible only at the time of ON serviceman setting.)
17	Protocol dump (G4)	This report will be manually printed out for maintenance purpose. If it is G4, G4 communication protocol dump is printed out. (REPORT PRINTING +6)
18	G4 Log report	This report will be manually printed out for fault analysis when G4 board is installed. (Operation is possible only at the time of ON serviceman setting.)

MESSAGE CONFIRMATION

07/01/2002 08:05
ID=OKI

DATE	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
07/01	00'20"	OKI FAX	TX	02	OK	0000

Message Confirmation Report (MCF)

MESSAGE CONFIRMATION

07/01/2002 17:05
ID=OKI

DATE	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
07/01	00'20"		B.C.	01	COMP	60A0

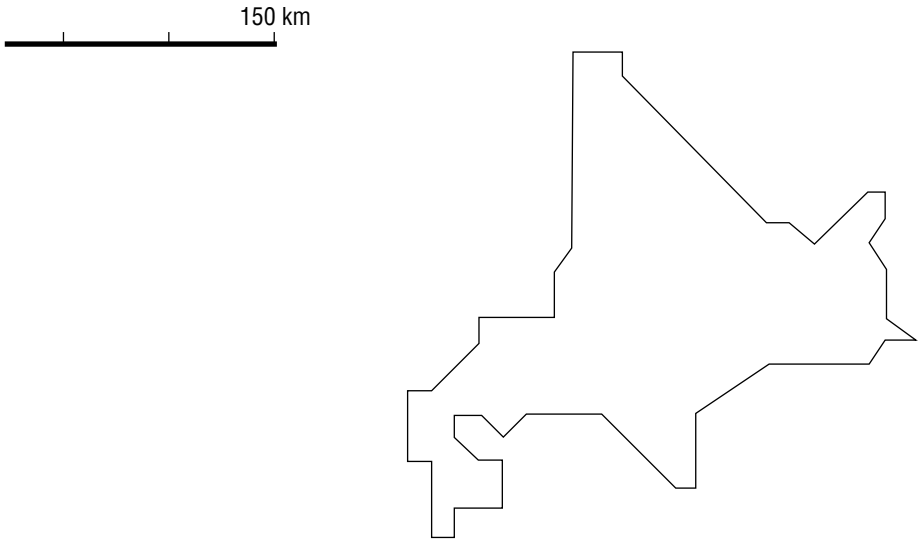


IMAGE in MCF with Memory TX

ACTIVITY REPORT

07/01/2002 17:05
ID=OKI

TOTAL TIME TX=08:22' RX=17:30'

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
06/29	10:00	01'20"	OKI FAX	TX	02	OK	0000
06/29	10:10	01'00"	0485 88 3385	TX	00	STOP	9080
06/29	12:05	01'20"	OKI FAX	TX	03	OK	0000
06/29	13:00	00'20"	03 5476 4300	TX	01	OK	0000
06/29	15:40	03'25"	ODS TAKASAKI	CONF=02	03	OK	0000 *1
06/29	19:00	00'00"	OKI FAX	TX	01	OK	0000 *2
06/30	10:10	02'00"	OKI SHIBAURA	RX	05	NO	908E
06/30	10:22	00'12"	0495 22 5400	TX	00	STOP	9080
06/30	10:50	01'20"	0495 22 5400	RX	03	NO	9090
06/30	12:05	00'20"	OKI FAX	TX	01	STOP	9080
06/30	15:00	01'30"		RX	03	OK	0000
06/30	15:30	00'20"		TX	01	OK	0000
06/30	19:04	00'20"	03 5476 4300	TX	00	STOP	9080
07/01	09:00	01'11"		TX	02	OK	0000
07/01	10:20	00'20"	03 5476 4300	TX	02	STOP	9080
07/01	10:35	02'23"		CONF=03	02	OK	0000 *1
07/01	10:50	00'20"	ODS TAKASAKI	RX	01	OK	0000
07/01	11:03	00'00"	OKI FAX	TX	00	STOP	9080
07/01	13:00	00'24"	03 5476 4300	RX	01	NO	9082
07/01	16:00	01'20"	027 324 2117	POLL=01	01	OK	0000 *3
07/01	16:10	00'40"	ODS	POLL TX	01	OK	0000 *4

*1 : Confidential reception
*2 : Manual TX
*3 : Bulletin TX wait state
*4 : Memory/Feeder polling TX wait state

Activity Report

ACTIVE MEMORY FILES

07/01/2002 17:05
ID=ODC

RECEPTION

ENTRIES	PAGES
05	20

PERSONAL BOX

BOX NO.	MODE	ENTRIES	PAGES
01	CONF	03	20
02	CONF	01	02
05	POLL	01	05

POLLING TX/RX

DATE	TIME	DISTANT STATION ID	MODE	PAGES
			POLL TX	03
07/02	12:05	OKI	POLL RX	

TRANSMISSION

DATE	TIME	DIDTANT STATION ID	MODE	PAGES
07/01	20:00	OKI DATA SYSTEMS	TX	03
07/01	12:03	0273242117	TX	01
07/01	19:00	ODC TAKASAKI	TX	02

Active Memory Files

Configuration
Print conditions

1) Setting by user
   Two pages shall be printed out. Setting only is printed on the first page and Dial Parameter setting, SYSTEM DATA PRG. and Internet FAX/ISDN registration.are printed on the second page.
2) Setting by service persons
   Printed as the third page when Service Bit = ON.

Report image

CONFIGURATION P1

02/14/2002 12:00
ID=ODS

FUNCTION LIST

01:MCF (SINGLE-LOC.) OFF	02:MCF (MULTI-LOC.) ON	03:ERR.REPORT (MCF) ON
04:IMAGE IN MCF PART.	05:SENDER ID. ON	06:MONITOR VOLUME LOW
07:BUZZER VOLUME MIDDLE	08:CLOSED NETWORK OFF	09:TX MODE DEFAULT STD/NORMAL
10:T/F TIMER PRG. 35SEC	11:RING RESPONSE 1 RING	12:DISTINCTIVE RING OFF
13:PAPER SIZE A4	14:USER LANGUAGE ENGLISH	15:INCOMING RING ON
16:REMOTE RECEIVE OFF	17:MEM./FEEDER SWITCH MEMORY	18:POWER SAVE MODE ON
19:ECM FUNCTION ON	20:REMOTE DIAGNOSIS OFF	21:PC/FAX SWITCH ON
22:NO TONER MEM.RX OFF	23:MEM.FULL SAVE ON	24:CONTINUOUS TONE OFF
25:INSTANT DIAL ON	26:RESTRICT ACCESS OFF	27:WIDTH REDUCTION OFF
28:TONER SAVE OFF	29:CNG COUNT 1	30:600DPI FAX TX ON
31:ISDN DIAL MODE G4	32:SPEECH RECEIVE ON	33:OPTION I/F MODE SCN
34:PAPER SIZE CHECK ON	35:PRINT JOB T.O. 30SEC	36:FLATBED TX MODE STD
37:FLATBED TX T.O. 30SEC	38:HALF SIZE SCAN OFF	39:AUTO TRAY SW. ON

Configuration Report (User)

CONFIGURATION P2

02/14/2002 12:00
ID=ODS

DIAL PARAMETER

REDIAL TRIES	3 TRY	REDIAL INTERVAL	3 MIN
DIAL TONE DETECT	OFF	BUSY TONE DETECT	ON
MF(TONE)/DP(PULSE)	MF	PULSE DIAL RATE	10 PPS
PULSE MAKE RATIO	39%	PULSE DIAL TYPE	N
MF(TONE) DURATION	100MS	PBX LINE	OFF
PBX TYPE	NORMAL	AUTO START	ON
DIAL PREFIX	OFF		

TEL NO.	= 12345678901234567890
CALL BACK NO.	= 12345678901234567890
FORWARDING NO.	=
ISDN COUNTRY CODE	= 081
ISDN(G4) NO.	= 12345678901234567890
ISDN(G4) ID	= ABCDEFGHIJ
ISDN SUB NO.	= 1234567890123456789
ISDN CALLED NO.	= 12345678901234567890

I-FAX NIC OPTIONS

<<I-FAX NIC SETTINGS>>

TEXT PRINT	ON	HEADER PRINT	TYPE1
CODING MODE	MH	EX.FINE MODE	300 DPI
SENDER ID (EMAIL)	OFF	SEND FILE FORMAT	TIFF
SEND NOTIFICATION	OFF	I-FAX NIC UPDATE	ON

<<POP INTERVAL>> DAILY [00:01] [03:01] [05:01] [07:01]

<<NETWORK SETTINGS>>

IP ADDRESS	[202.250.105. 26]
SUBNET MASK	[202.250.150.254]
DEFAULT GATEWAY	[255.255.255. 0]
SMTP SERVER NAME	[------------------------- MAX64 -------------------------]
POP SERVER NAME	[------------------------- MAX64 -------------------------]
POP USER ID	[ABCDEFGHIJKLMNOP]
POP PASSWORD	[**********]
DNS P.SRV ADDR.	[202.101.233.105]
DNS S.SRV ADDR.	[202.101.233.105]
FAX EMAIL ADDR.	[------------------------- MAX64 -------------------------]
MAC ADDRESS	00.C0.26.39.23.38

Configuration Report (User)

CONFIGURATION P3

02/14/2002 12:00
ID=ODS

FUNCTION LIST

01:SERVICE BIT ON	02:MONITOR CONT. ON	03:COUNTRY CODE TWN
04:TIME/DATE PRINT OFF	05:TSI PRINT ON	06:TAD MODE TYPE2
07:REAL TIME DIAL TYPE2	08:TEL/FAX SWITCH ON	09:MDY/DMY MDY
10:LONG DOC. SCAN ON	11:TONE FOR ECHO OFF	12:MH ONLY OFF
13:H/MODEM RATE 33.6K	14:T1(TX) TIMER VALUE 059	15:T1(RX) TIMER VALUE 035
16:T2 TIMER VALUE 130	17:DIS BIT32 ON	18:ERR CRITERION VALUE 10
19:OFF HOOK BYPASS OFF	20:NL EQUALIZER 0 DB	21:ATTENUATOR 10 DB
22:T/F TONE ATT 10 DB	23:MF. ATT 3 DB	24:RING DURA. * 10MS 12
25:CML TIMING * 100MS 03	26:LED HEAD STROBE 10100	27:MEDIA TYPE MEDIUM
28:TR LATCH CURRENT 0	29:NSF SWITCH OFF	30:ID/TSI PRIORITY ID
31:TONER COUNT CLEAR OFF	32:PARALLEL PICK UP OFF	33:V.34 TX RETRY ON
34:SYMBOL RATE 3429	35:LEASED LINE OFF	36:CED SEND ON
37:TOP FEED OMM	38:BOTTOM FEED OMM	39:A/R FULL PRINT ON
40:COMMAND TIME OUT 30 SEC	41:G3/G4 LEARNING ON	42:LLC CHECK OFF
43:G3 SETUP 3.1K AUDIO		

44:G3 FALLBACK CAUSE

BA01	BA02	BA03	BA06	BA07
BA10	BA11	BA12	BA13	BA15
BA16	BA1A	BA1B	BA1C	BA1D
BA1E	BA1F	BA22	BA26	BA29
BA2A	BA2B	BA2C	BA2F	BA31
BA32	BA39	BA3A	BA3F	BA41
BA42	BA45	BA46	BA4F	BA51
BA52	BA53	BA54	BA55	BA56
BA58	BA5B	BA5F	BA60	BA61
BA62	BA63	BA64	BA65	BA66
BA6F	BA7F	BB01	BB07	

Configuration Report (Service bit = ON)

Telephone Directory
Print conditions

Number of OTs		10
Number of ADs		100
Number of groups		10
Maximum number of digits of OT/AD Tel No.		40
Maximum number of digits of OT OR Tel No.		40
Maximum number of digits of Email		64 (Alphabetic small letters can be printed.)
Email registered OT		All OTs (10)
Communication parameter		All OT/ADs excluding Email registered OT
	G3-ECHO	ON/OFF
	G3-RATE	4.8K/9.6K/14.4K/28.8K/33.6K
	MODE	G3/G4

(See section 4.11.7 for printed characters)

1st page	OT1 ~ 10 + AD01 ~ 45
2nd page	AD46 ~ 70
3rd page	Group 1 ~ 5
4th page	Group 6 ~ 10

Report is output for registration pages corresponding to the above list.

Example:

- For OT registration / AD01-45 registration, Page1; OT + AD-1-45
  For registration as above in group, Page1: OT + AD01-45/Page2: Group
- For OT registration/AD01-45 registration/AD46 and succeeding registration, Page1: OT+AD01-45 and Page2; AD46-70
  For registration as above in group, Page1: OT + AD01-45/Page2: AD46-70/Page3: Group
- AD46 and succeeding registration, Page1: Only AD46 - 70
  For registration of in group, Page1: AD46-70/Page2: Group

TELEPHONE DIRECTORY P1

02/14/2002 12:00
ID=ODS

	LOCATION ID	TEL NO.	G3-ECHO/G3-RATE/MODE
ONE TOUCH			
1	ABCDEFGHIJKLMNO	12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
	OR	12345678901234567890123456789012345678901234567890	
2	OT2	12345678901234567890123456789012345678901234567890	OFF / 9.6K / G3
	OR		
3	OT3	12345678901234567890	ON / 33.6K / G4
	OR		
4	OT4	12345678901234567890	ON / 33.6K / G4
	OR		
5	OT5	12345678901234567890	ON / 33.6K / G4
	OR		
6	12345678901234567890123456789012345678901234567890@okidata.cp.jp [SEND FILE FORMAT = TIFF / SENDER ID(EMAIL) = ON]		
7	046vp@faxmfp.co.jp [SEND FILE FORMAT = TIFF / SENDER ID(EMAIL) = ON]		
8	OT8	12345678901234567890	ON / 33.6K / G4
	OR		
9	okitakasaki@faxmfp.co.jp [SEND FILE FORMAT = TIFF / SENDER ID(EMAIL) = ON]		
10	OT10	12345678901234567890	ON / 33.6K / G4
	OR		
AUTO DIAL			
001	ABCDEFGHIJKLMNO	12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
002	AD02	12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
003	AD03	12345678901234567890	ON / 33.6K / G4
004			ON / 33.6K / G4
005			ON / 33.6K / G4
006			ON / 33.6K / G4
007			ON / 33.6K / G4
008			ON / 33.6K / G4
009			ON / 33.6K / G4
010			ON / 33.6K / G4
011			ON / 33.6K / G4
012			ON / 33.6K / G4
013			ON / 33.6K / G4
014			ON / 33.6K / G4
015			ON / 33.6K / G4
016			ON / 33.6K / G4
017			ON / 33.6K / G4
018			ON / 33.6K / G4
019			ON / 33.6K / G4
020			ON / 33.6K / G4
021			ON / 33.6K / G4
022			ON / 33.6K / G4
041			ON / 33.6K / G4
042			ON / 33.6K / G4
043			ON / 33.6K / G4
044			ON / 33.6K / G4
045			ON / 33.6K / G4

Telephone Directory (1/4)

TELEPHONE DIRECTORY P2

02/14/2002 12:00
ID=ODS

AUTO DIAL	LOCATION ID	TEL NO.	G3-ECHO/G3-RATE/MODE
046	AD46	12345678901234567890123456789012	ON / 33.6K / G4
047	AD47	12345678901234567890123456789012	ON / 33.6K / G4
048	AD48	12345678901234567890	ON / 33.6K / G4
049			ON / 33.6K / G4
050			ON / 33.6K / G4
051			ON / 33.6K / G4
052			ON / 33.6K / G4
053			ON / 33.6K / G4
054			ON / 33.6K / G4
055			ON / 33.6K / G4
056			ON / 33.6K / G4
057			ON / 33.6K / G4
058			ON / 33.6K / G4
059			ON / 33.6K / G4
060			ON / 33.6K / G4
061			ON / 33.6K / G4
062			ON / 33.6K / G4
063			ON / 33.6K / G4
064			ON / 33.6K / G4
065			ON / 33.6K / G4
066			ON / 33.6K / G4
067			ON / 33.6K / G4
068			ON / 33.6K / G4
069			ON / 33.6K / G4
070			ON / 33.6K / G4
071			ON / 33.6K / G4
072			ON / 33.6K / G4
073			ON / 33.6K / G4
074			ON / 33.6K / G4
075			ON / 33.6K / G4
076			ON / 33.6K / G4
077			ON / 33.6K / G4
078			ON / 33.6K / G4
079			ON / 33.6K / G4
080			ON / 33.6K / G4
081			ON / 33.6K / G4
082			ON / 33.6K / G4
083			ON / 33.6K / G4
084			ON / 33.6K / G4
085			ON / 33.6K / G4
086			ON / 33.6K / G4
087			ON / 33.6K / G4
088			ON / 33.6K / G4
089			ON / 33.6K / G4
090			ON / 33.6K / G4
091			ON / 33.6K / G4
092			ON / 33.6K / G4
093			ON / 33.6K / G4
094			ON / 33.6K / G4
095			ON / 33.6K / G4
096			ON / 33.6K / G4
097			ON / 33.6K / G4
098			ON / 33.6K / G4
099			ON / 33.6K / G4
100			ON / 33.6K / G4

Telephone Directory (2/4)

TELEPHONE DIRECTORY P3

02/14/2002 12:00
ID=ODS

GROUP NUMBER = #1 #2 #3 #4 #5

<#1 ONE TOUCH>
1 2 3 4 5 6 7 8 9 10

<#1 AUTO DIAL>
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69
70

<#2 ONE TOUCH>

<#2 AUTO DIAL>

<#3 ONE TOUCH>

<#3 AUTO DIAL>

<#4 ONE TOUCH>

<#4 AUTO DIAL>

<#5 ONE TOUCH>

<#5 AUTO DIAL>

Telephone Directory (3/4)

TELEPHONE DIRECTORY P4

02/14/2002 12:00
ID=ODS

GROUP NUMBER = #6 #7 #8 #9 #10

<#6 ONE TOUCH>
1 2 3 4 5 6 7 8 9 10

<#6 AUTO DIAL>
001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023
024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046
047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069
070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092
093 094 095 096 097 098 099 100

<#7 ONE TOUCH>

<#7 AUTO DIAL>

<#8 ONE TOUCH>

<#8 AUTO DIAL>

<#9 ONE TOUCH>

<#9 AUTO DIAL>

<#10 ONE TOUCH>

<#10 AUTO DIAL>

Telephone Directory (4/4)

G3 Protocol Dump Image

PROTOCOL DUMP P1

12/24/2002 19:00
ID=OKI TAKASAKI

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
12/24	18:56	00'33"	123456789012345678901234	TX	002	OK 0000

FCF

TX		NSS	PPS_MPS	PPS_EOP	DCN
RX	NSF DIS	CFR	MCF	MCF	
TX					
RX					
TX					
RX					
TX					
RX					

TRANSMITTED FRAME

DIS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DTC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DIS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
NSF
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSS
FF C8 C4 00 00 84 80 30 40 E4 10 40 B8 39 20 0C 0C 0C 0C 30 82 4A AA 82 42 92 12 CA 04 92 D2 F2
80 40 80 10 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
CSI/CIG/TSI
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SEP/SUB
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SID
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
V34
CM JM
00 00 00 00 00 00 00 00

SYMBOL RATE(SPS) =
DATA SIGNALLING RATE(BPS) =

MODEM TRACE
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Protocol Dump Report (G3)

PROTOCOL DUMP P2

12/24/2002 19:00
ID=OKI TAKASAKI

RECEIVED FRAME

DIS
FF C8 01 00 73 17 22 00 00 00 00 00 00 00 00 00 00 00 00
DTC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DCS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
NSF
FF C0 04 00 00 84 80 08 40 F4 10 40 F9 7D 20 0C 0C 0C 0C 90 F2 52 72 F2 12 04 92 D2 F2 80 F0 80
40 80 50 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
CSI/CIG/TSI
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SEP/SUB
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SID
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
V34
CM JM
00 00 00 00 00 00 00 00

Protocol Dump Report (G3)

BROADCAST ENTRY REPORT

09/06/2002 12:00
ID=ODS

LOCATION ID

ONE TOUCH

1=12345678901234567890123456789012345678902=12345678901234567890123456789012345678903=OKI DATA CORP.4=12345678901234567890123456789012345678905=12345678901234567890123456789012345678906=02732659787=02732612348=02732678909=02732614479=0273265980

AUTO DIAL

001=12345678901234567890123456789012345678902=12345678901234567890123456789012345678903=ODS004=OKI DATA SYSTEM005=AD05006=AD06007=AD07008=AD08009=AD09010=AD10011=AD11012=AD12013=AD13014=AD14015=AD15016=AD16017=AD17018=AD18019=AD19020=AD20021=AD21022=AD22023=AD23024=AD24025=AD25026=AD26

071=AD71072=AD73074=AD75076=AD77078=AD79080=AD81082=AD83084=AD85086=AD87088=AD89090=AD91092=AD93094=AD95096=AD97098=AD99100=AD100

MANUAL

12345678901234567890123456789012345678902732410227324103027324104027324105027324106027324107027324108027324109027324110

Broadcast Entry Report

BROADCAST CONFIRMATION REPORT

07/01/2002 17:05
ID=OKI

PAGES = 01
START TIME = 07/01 10:00
TOTAL TIME = 00:02'30"

	LOCATION ID	PAGES	RESULT	LOCATION ID	PAGES	RESULT
ONE TOUCH						
1 =	HEAD OFFICE	01	OK	2 = OT2	01	OK
3 =	OT3	01	OK	4 = OT4	01	OK
5 =	OT5	01	OK			
AUTO DIAL						
001 =	AD1	01	OK	002 = AD2	01	OK
003 =	AD3	01	OK	004 = GERMAN	01	OK
005 =	AD5	01	OK			
MANUAL						
	1234	01	OK			
	3456	01	OK			
	5678	01	OK			

Broadcast Confirmation Report

POWER OUTAGE REPORT

07/01/2002 17:05
ID=OKI

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
06/30	10:10		0485-88-3385	TX	01	LOST	
06/30	10:30		ODS TAKASAKI	TX	03	LOST	
06/30	12:05	01'20"	OKI FAX	CONF=01	03	LOST	0000
06/30	13:00	00'20"	03-5476-4300	RX	01	LOST	0000
06/30	10:50	01'20"	0495-22-5400	RX	03	LOST	0000
06/30	15:00			B.C.	01	LOST	

Note: Memory receptin only is printed on the mode in the report as called.

POWER OUTAGE REPORT

CONFIDENTIAL RX REPORT

07/01/2002 17:05
ID=OKI

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
07/01	17:00	00'00"	OKI FAX	CONF=01	02	OK	0000

Confidential RX Report

07/01/2002 09:24 OKI SHIBAURA → OKI HONJO NO.002

PLEASE CALL BACK

OKI SHIBAURA

03 5476 1234

Call Back Message

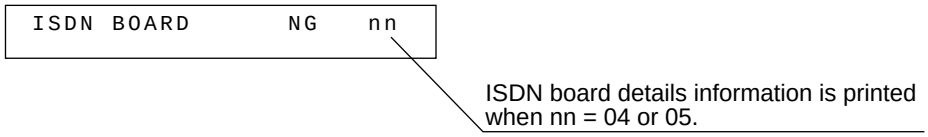
Self Diagnosis Report
Print conditions

1) The following self diagnosis results are always printed.
   - CPU - ROM, FLASH - PROGRAM / LANGUAGE / DEFAULT version read and hush check.
   - CPU-RAM, FLASH - RAM read/write check
   - Image processor LSI RAM check
   - Setting DEFAULT TYPE and reading clock at self diagnosis execution.

2) The following printing differs depending on the condition of option provided or not.

*1 Printed only when MFP option is provided. “MFG:,” “MDL:,” and “DES:” information is printed out of ID character strings of PnP device. Small letters can be printed. The maximum number of each of letters and characters shall be 45.

*2 Printed only when ISDN option is provided.
When performing self diagnosis, ISDN board test is executed and its result (error information at power on is partially adopted) is printed.
The print contents at ISDN error are as shown below.



nn=01: Waiting PC loading
When turning on power, BOOT2 signal from HOST side was in PC loading mode.

nn=02: Board faulty
When turning on power, PROGRAM HUSH of ISDN board was no good.

nn=03: Board faulty
Initial sequence between boards was not executed in spite of elapse of 10 seconds after turning on power. (Status window did not obtain normal value.)

nn=04 Board faulty
Initial sequence of ISDN LSI was not executed when turning on power. (No response to command, Response no good)

nn=05: ISDN LSI faulty
ISDN LSI test function (ROM/RAM test, loop test) resulted no good.

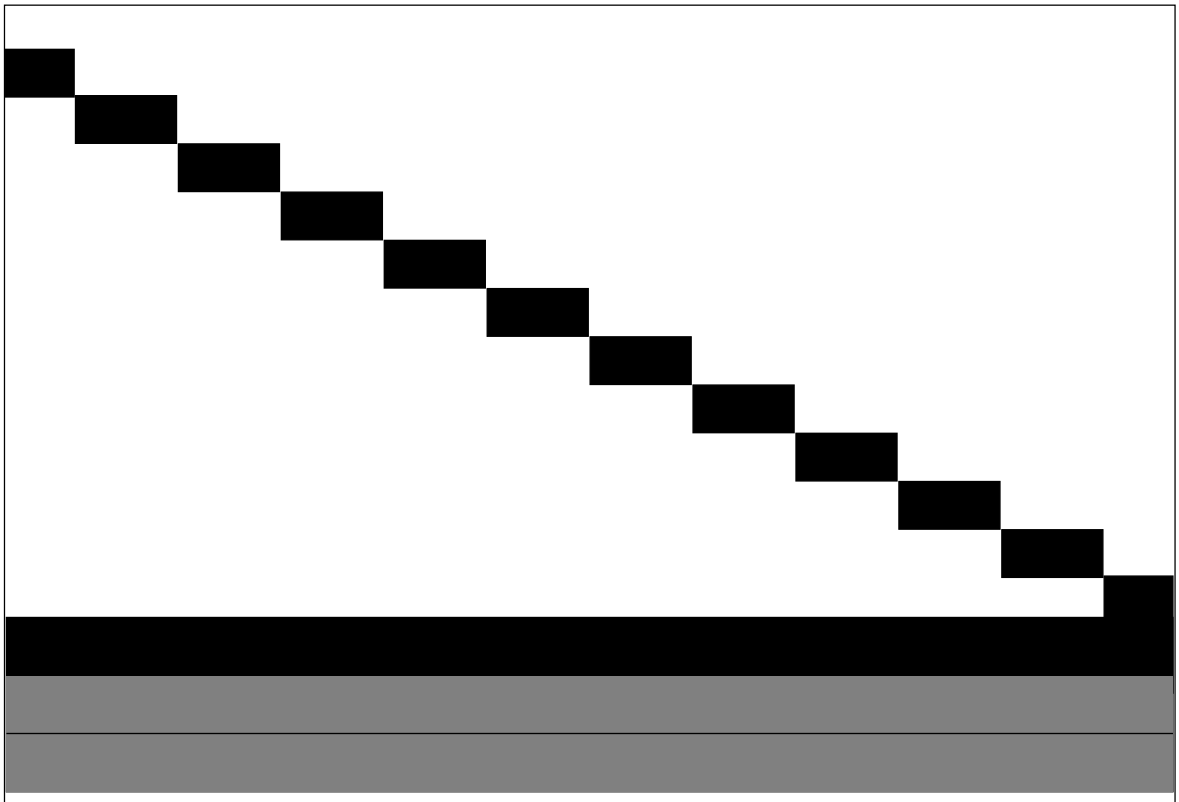
*3 Indicate when installed with an I-FAX NIC option.
Perform an I-FAX NIC option test upon self-diagnosing and indicate the results.
The indications upon generating an I-FAX NIC option error are listed below.

*4 Indicate when installed with an I-FAX NIC option. (Separate versions by inserting a hyphen (-) in between.)
Indicate the F/W version for an I-FAX NIC option in six digits.
Indicate the boot block version for an I-FAX NIC option in four digits.
Indicate the hardware version for an I-FAX NIC option in three digits.
Only the set value upon an I-FAX NIC option board error is to be blank.

*5 Indicate the MAC address when installed with an I-FAX NIC option.
Only the set value upon an I-FAX NIC option board error is to be blank.

*6 Indicate the title when installed with a 1284 board. The indicated line is to be in the same position as *5 (line indicating I-FAXING NIC option data).

The image when installed with a 1284 board.

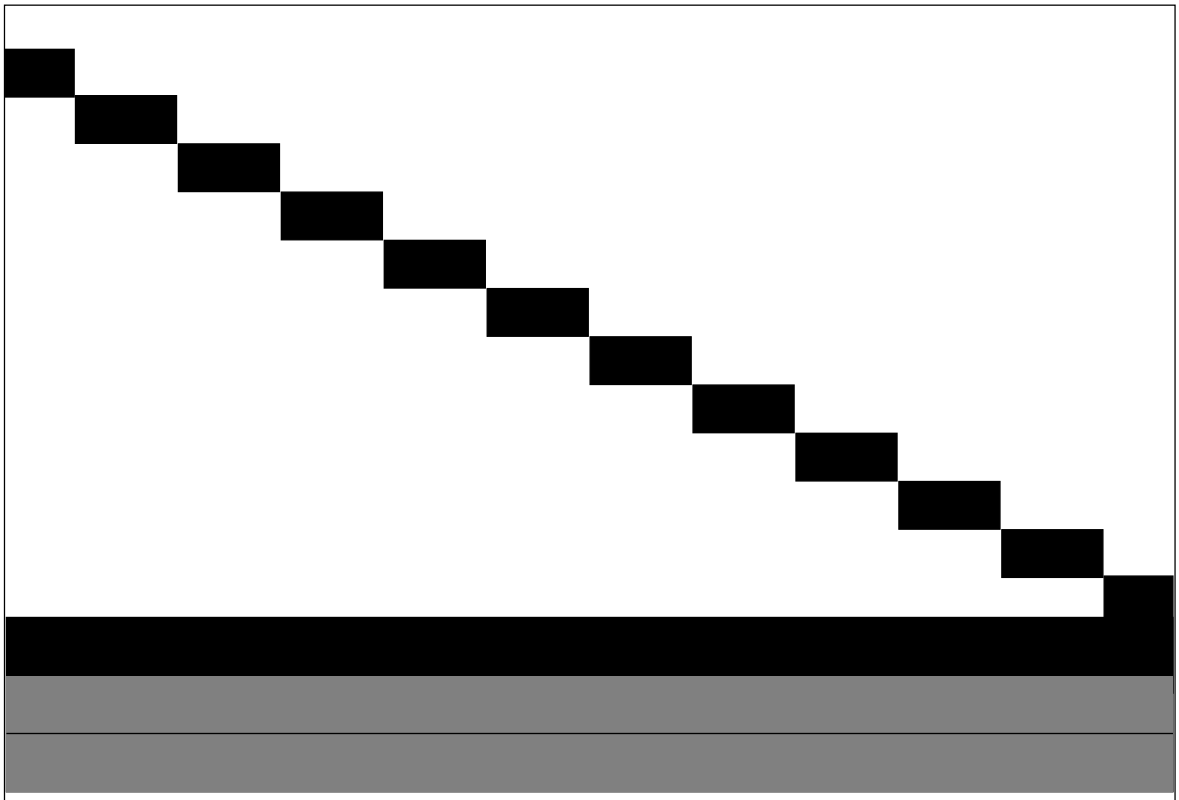


```
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
LANGUAGE  VERSION  aaaa
          HASH     OK   hhhh
DEFAULT   VERSION  aaaa
          HASH     OK   hhhh
RAM1               OK
RAM2               OK
DEFAULT   TYPE     01   11/01/2002  12:00
MODEM     VERSION  hhhh
1284 BOARD                                  *6
DEVICE ID          MFG:OKI DATA CORP;       *1
                   MDL:FX-046VP;            *1
                   DES:OKI FX-046VP;        *1
ISDN BOARD         OK
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK                       *2
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
RAM       2M       OK
DPRAM     2K       OK
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

Letter size with 23mm bottom margin.

The image when installed with an I-FAX NIC option.



```
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
LANGUAGE  VERSION  aaaa
          HASH     OK   hhhh
DEFAULT   VERSION  aaaa
          HASH     OK   hhhh
RAM1               OK
RAM2               OK
DEFAULT   TYPE     01   11/01/2002  12:00
MODEM     VERSION  hhhh
I-FAX NIC          OK   nn                    *3
PROGRAM   VERSION  aaaaaa-nnnn-nnn            *4
MAC ADDRESS        00.C0.26.39.23.38         *5

ISDN BOARD         OK
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK                        *2
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
RAM       2M       OK
DPRAM     2K       OK
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

Letter size with 23mm bottom margin.

Protocol Dump

The printing image is as follows:

PROTOCOL DUMP P1

08/25/2002 19:00
ID=OKI TAKASAKI

DATA	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
04/19	14:49	00’07"	OKI SHIBAURA(6412)	TX-G4	02	OK 0000

Dch.

TX	SETUP CONN-ACK +Bch+ DISC REL-C
RX	STATUS SETUP-ACK CONN +Bch+ REL
TX	
RX	

Bch.

TX	SABM SQ CR TCR CSS CDCL CDS CDUI CDPB CDUI CDPB CDUI CDPB CDUI CDUI
RX	UA SF CC TCA RSSP RDCLP RDPBP RDPBP RDPBP
TX	CDE CQ DISC
RX	RDEP CF UA
TX	
RX	
TX	
RX	

COMMN MODE
T.90

COMMN SPEED
64 kbps

FLOW CONTROL PARAM.
2048(SPS)/7(SWS)/2048(RPS)/7(RWS)

TID
081-0273242117 =OKITAKASAKI

SETUP
08 01 05 05 04 02 88 90 6C 02 00 80 70 0B 80 30 32 37 33 32 38 30 30 30 31 7C 03 88 90 A9 7D 02
91 A1 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

DISC
45 16

Protocol Dump P1 (G4)

PROTOCOL DUMP P2

08/25/2002 19:00
ID=OKI TAKASAKI

```
CR/CN
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CA/CC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CQ/CI
00 00 00 00 00

RQ/RI
00 00 00 00 00

SQ/SI
00 00 00 00 00

TBR
 00

TCC
00

TCR
09 E0 00 00 00 01 00 C0 01 0B 00 00 00 00 00 00

TCA
09 D0 00 01 00 01 00 C0 01 0B 00 00 00 00 00 00

CSS
0D 6F 01 2A 0A 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 37 2D 30 38 2D 32 37 2D 31 34 2D 34 34 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 2F 00 01 79 00 E0 1C C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 C4 04
30 30 30 30 E1 0B E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RSSP/RSSN
0E 69 01 2A 09 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 38 2D 30 36 2D 30 32 2D 31 33 3A 34 36 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 29 00 01 79 00 E0 16 C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 E1 0B
E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

CDCL
3D 58 12 01 3C C1 4D A4 4B 80 01 02 81 01 00 A2 3C A2 32 30 08 80 02 26 C0 81 02 36 CE 30 08 80
02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C 30 08 80 02 2E 23 81 02 41 25 30 08 80 02 36
CE 81 02 4D 80 A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0 01 01 E8 04 00 01 49 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RDCLP
3E 40 C1 3E A4 3C 80 01 02 81 01 00 A2 25 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30 08 80 02 2F 6C
81 02 43 2C 30 08 80 02 2F 6D 81 02 43 2C A4 03 8B 01 04 E4 0D E0 06 02 01 02 02 01 03 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDS
2D 40 29 03 30 30 31 C1 39 A4 37 80 01 02 81 01 00 A2 28 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30
08 80 02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDUI
01 00 A2 03 02 01 00 A2 1B 02 01 02 31 16 A4 08 80 02 26 C0 81 02 36 CE A6 05 A1 03 82 01 01 E9
03 C0 01 00 A3 80 31 06 A2 04 80 02 06 C0 24 80 04 82 07 90 01 01 00 00 00 00 00 00 00 00 00 00
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

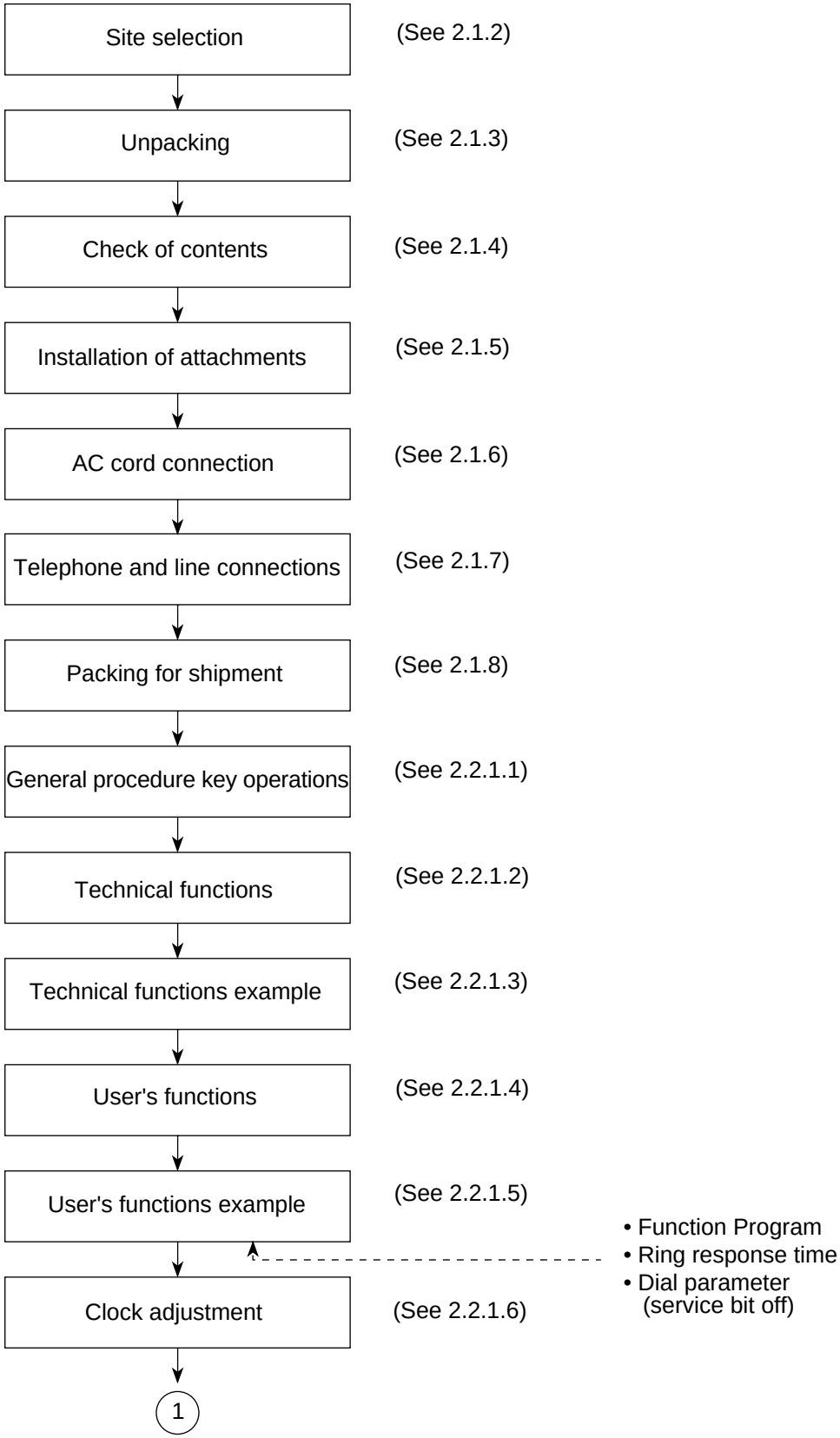
Protocol Dump P2 (G4)

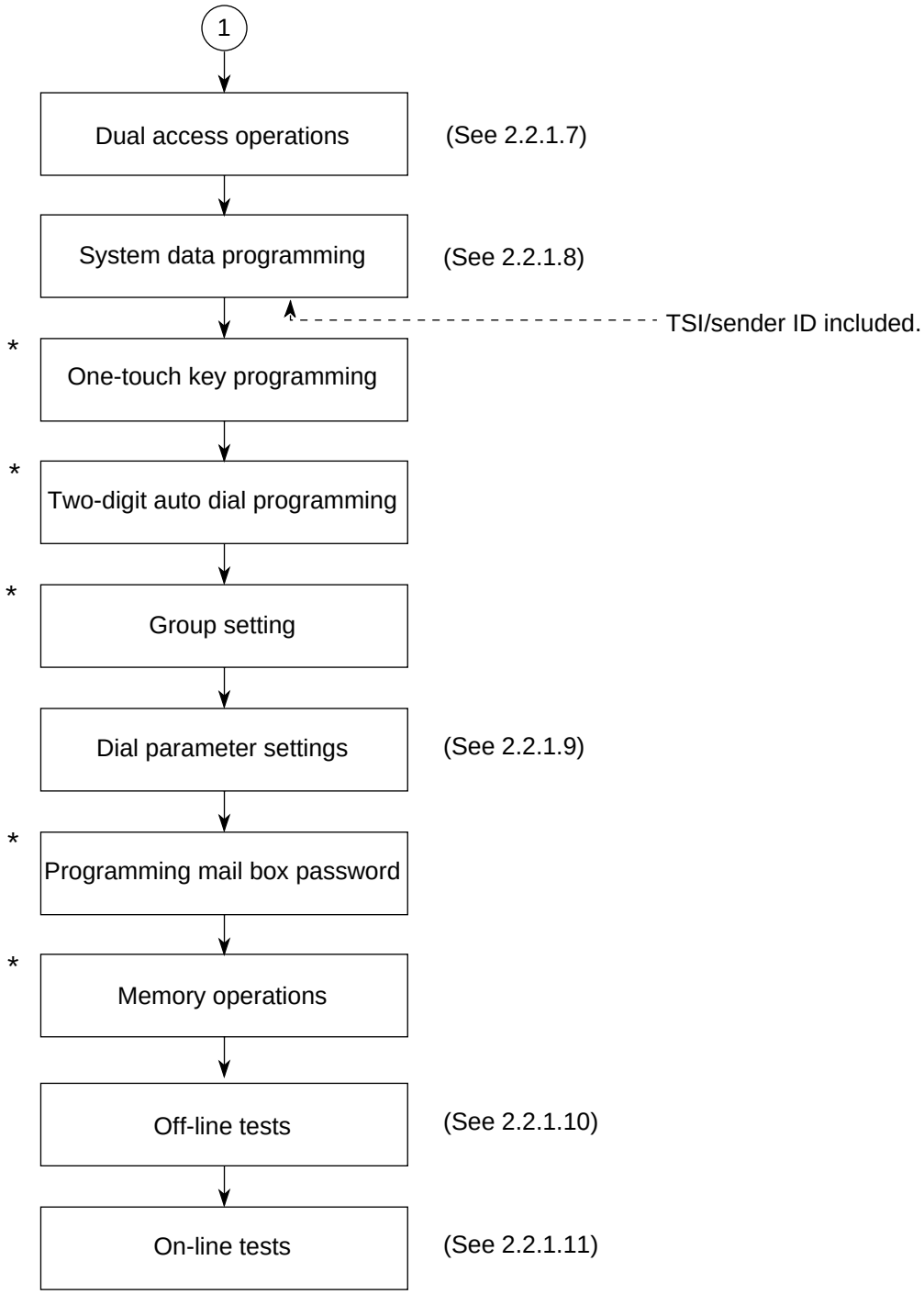
2. INSTALLATION PROCEDURE

2.1 Setup Information

2.1.1 General

The following flowchart outlines the installation procedure.





* : See user's guide

2.1.2 Site Selection

INSTALLATION

Precautions for Installation

(1) Fluctuation in line voltage
- 120VAC (102V to 127V)
- 230VAC (198V to 264V)

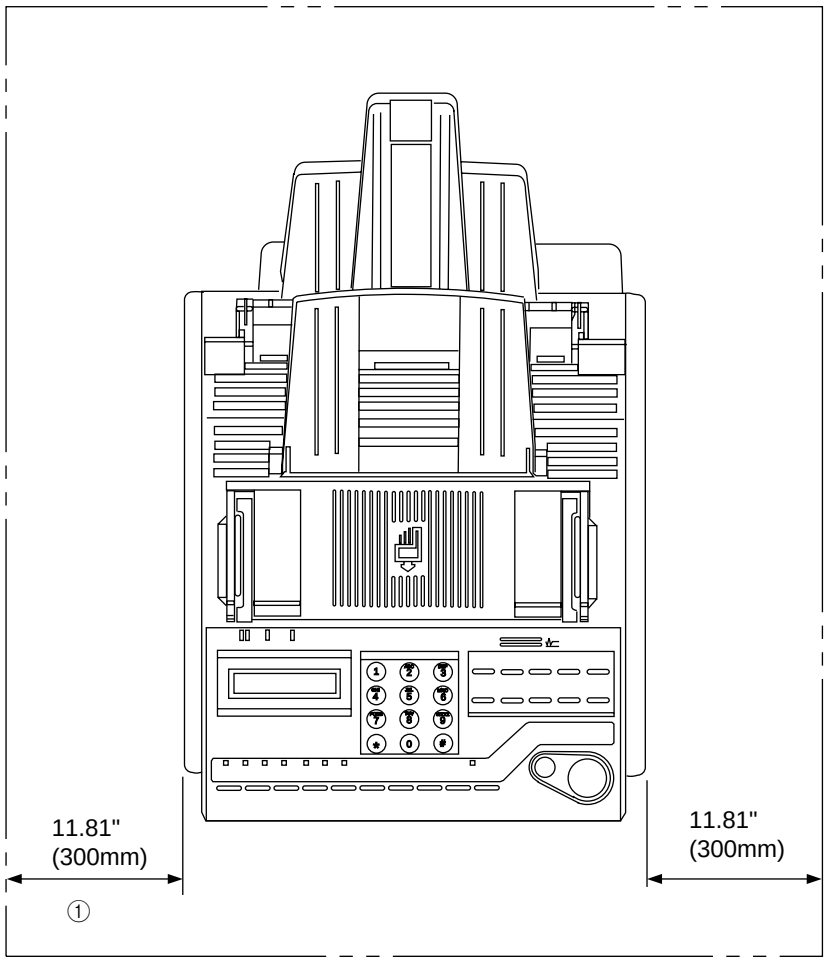
(2) Room temperature
50 to 90°F (10 to 32°C)

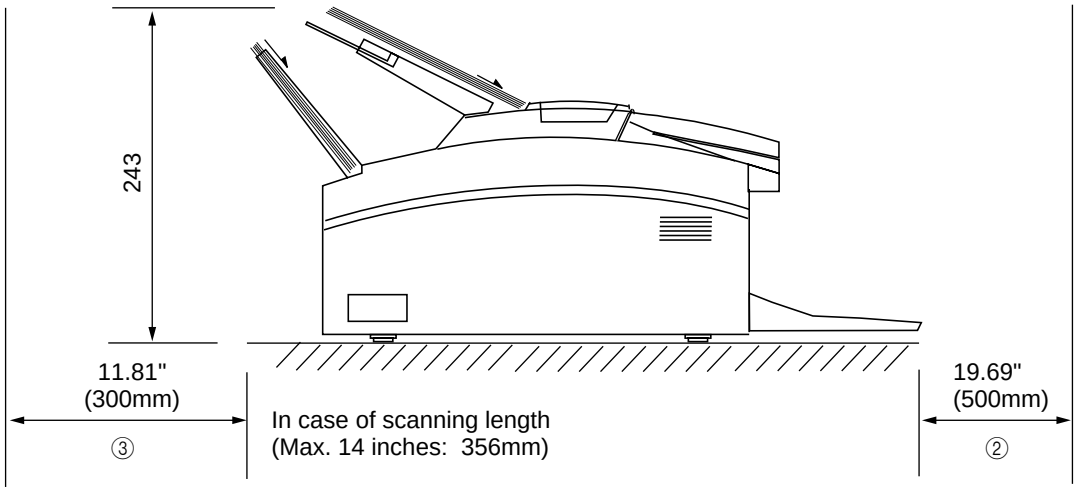
(3) Humidity
20 to 80% RH

(4) Operating environment
Pressure: Equivalent to altitude of 2500 m and below.

(5) Exposure
Within five minutes at luminous intensity 2,000 lux (with the stacker cover opened).

(6) Required space for installation
The facsimile requires the space as shown below for safety and good operability.





Note: ① This space is necessary for having the telephone set. (page 62)
② This space is necessary for installing the document stacker.
③ This space is necessary for ventilation.

(7) Levelness of installation surface
1 degree max.

(8) Other requirements
Avoid installing in any of the following places:
- A place exposed to direct sunlight
- A place near a heat source or exposed to vibration
- A dusty place
- A place in the atmosphere of acid gas, or steam etc.,
- A place exposed to quick temperature changes

2.1.3 Unpacking

Procedure

(1) Remove tape on the top of the carton box and open its cover.

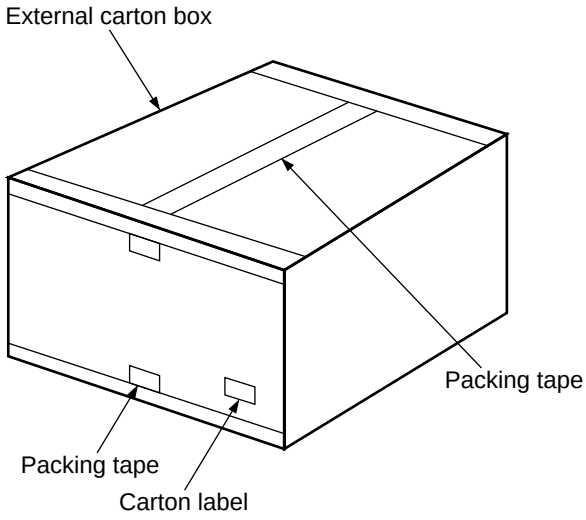


Figure 2.1 (1/2) Unpacking Procedure

(2) Take out the accessory box from the carton box.
(See Figure 2.1)

(3) Take out the machine with plastic wrapper from the box.

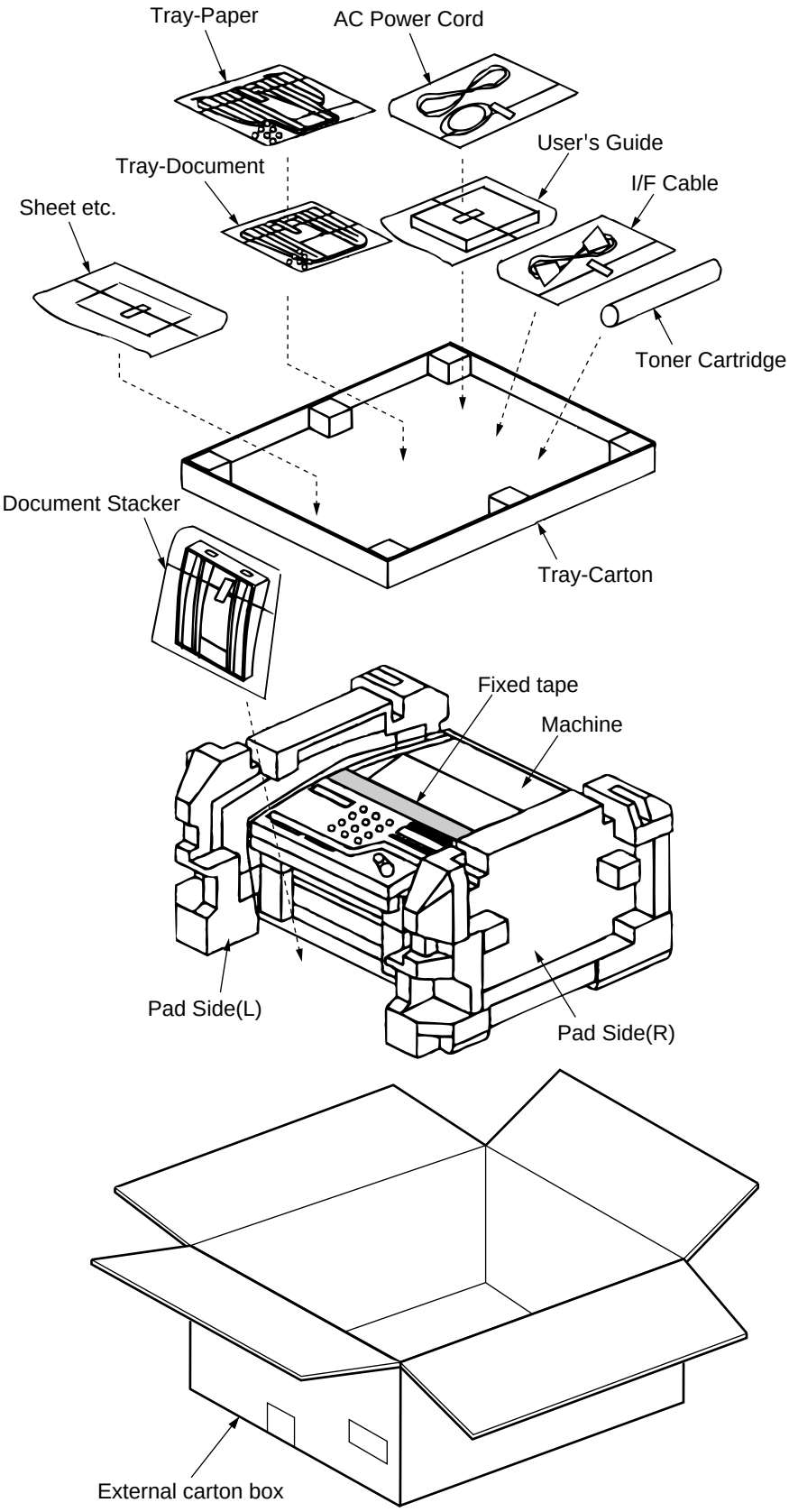


Figure 2.1 (2/2) Unpacking Procedure

2.1.4 Identification Contents

After having taken out the machine and accompanied accessories from the carton box, check the contents according to the following list:

Table 2.1 Contents List

Item No.	Name	Q'ty	Remarks
1	FX-046VP	1	
2	AC power cord	1	
3	I/D unit	1	Already installed.
4	Toner cartridge	1	
5	Line cord	1	
6	One touch sheet	1	Already installed.
7	User's guide	1 vol.	
8	Tray paper	1	
9	Tray document	1	
10	Document stacker	1	

2.1.5 Installation of Attachments

(1) Items
- Image Drum (ID) Unit (already installed)
- Toner cartridge
- Recording paper
- Tray-paper, Tray-document and Document-stacker

(2) Procedure

1) Toner cartridge
- Peel off the fixed tape attached to the cover-top.
- Open the cover-top.

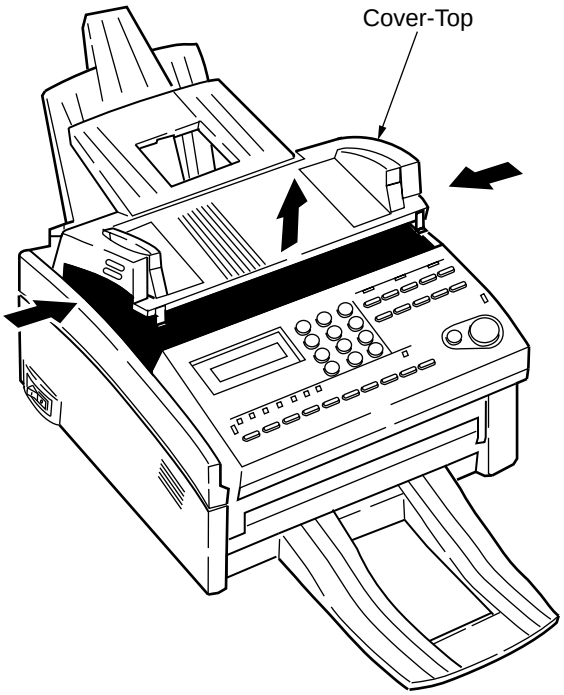


Figure 2.2 Toner Cartridge Installation (1)

- Take the plastic cover out of the ID unit.

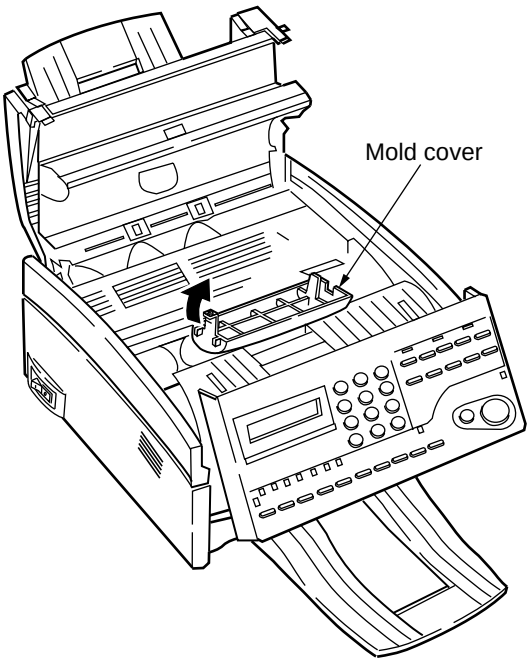


Figure 2.2 Toner Cartridge Installation (2)

• Take out the toner cartridge from the damp proof bag, shake it five or six times as shown in the illustration to eliminate the toner deflection, and peel off the seal gently.

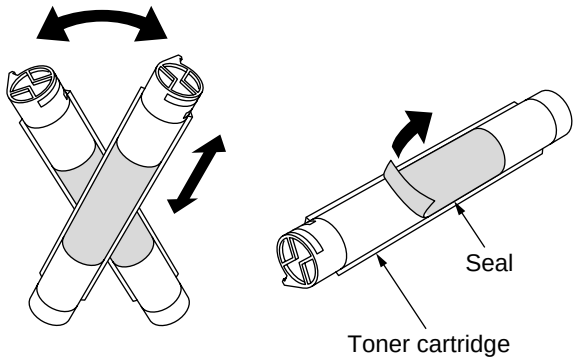


Figure 2.2 Toner Cartridge Installation (3)

• Ensure that the plastic tab on the right-hand side of the toner cartridge recess lines up with the groove on the toner cartridge.
• Press down on both ends to make sure the cartridge is fully seated.

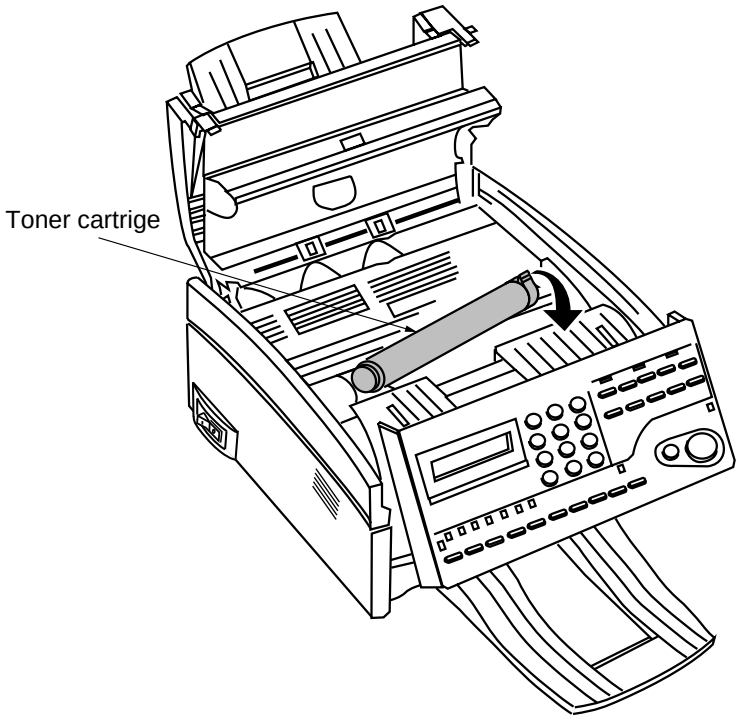


Figure 2.2 Toner Cartridge Installation (4)

• Push the gray tab forward until it stops.

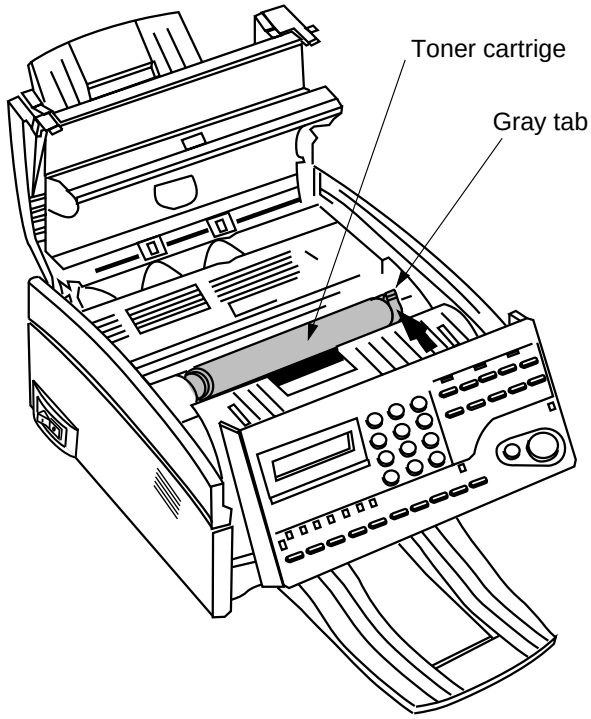


Figure 2.2 Toner Cartridge Installation (5)

• Clean the toner scattered in the vicinity of the toner cartridge using a cloth moistened with cold water. Do not use hot water since it makes the toner stick there.
• Close the cover assembly-top until the buttons have been locked completely.

(3) Recording paper

Note: About 100 sheets of the new paper can be set on the tray-paper.

Loading the new paper.
Sheets must not exceed 100 sheets of the new paper on the tray-paper. If excessive sheets are set, it will cause paper jams.

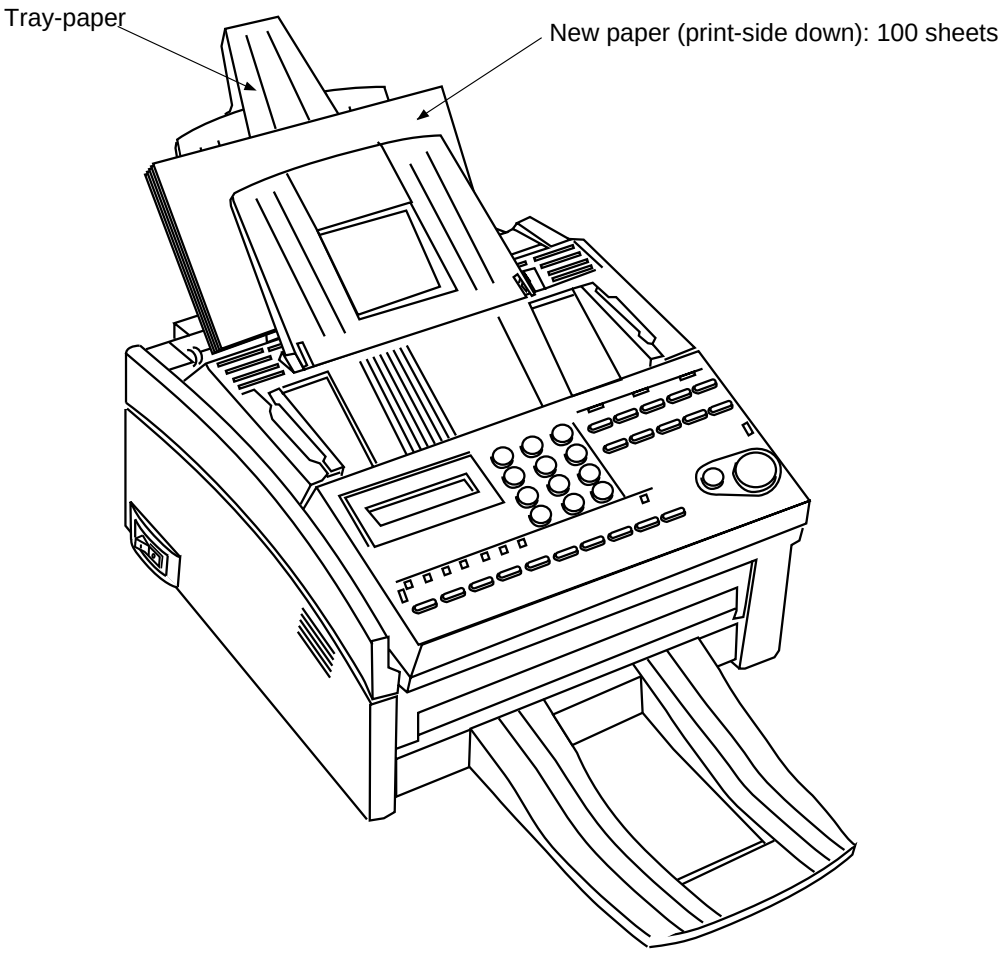


Figure 2.3 Recording Paper Cassette Installation

(4) Tray-paper, Tray-document and Document-stacker

• Hang the tray-paper, the tray-document and the stacker-document onto hanging position.

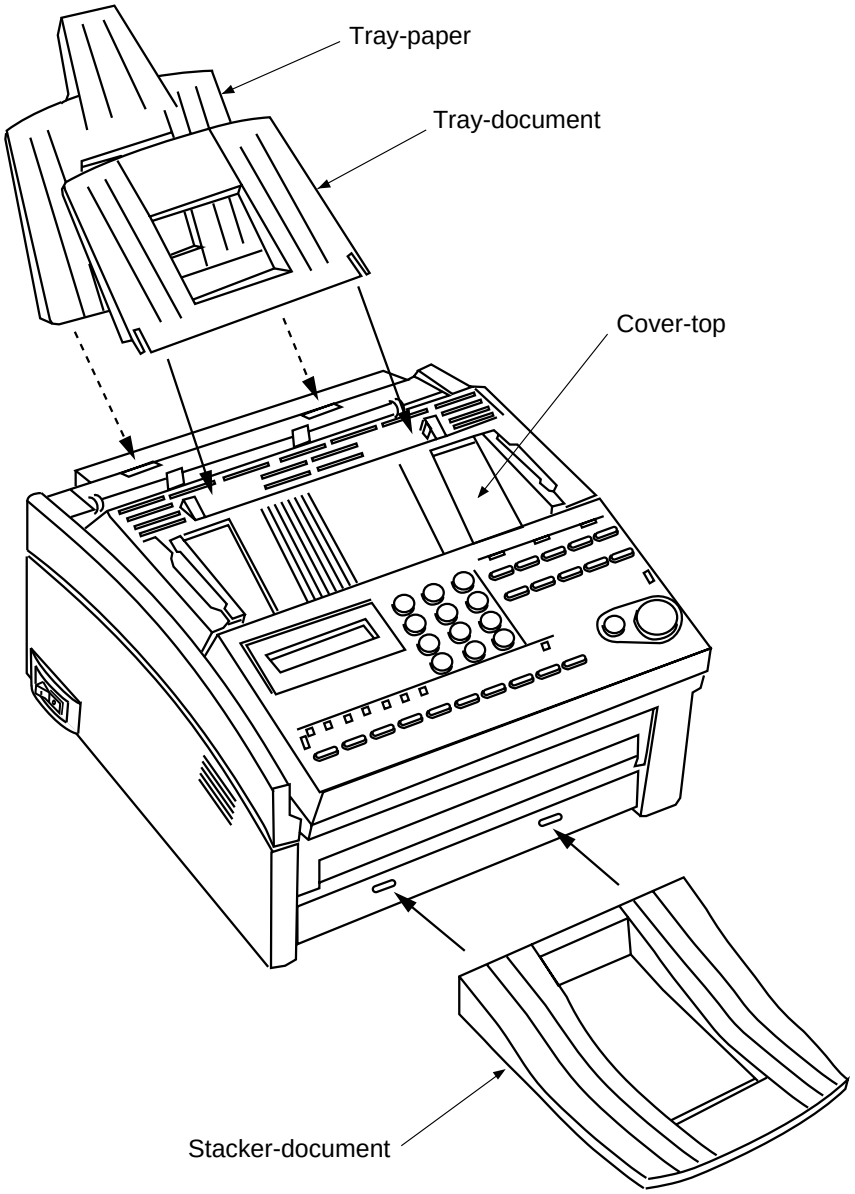


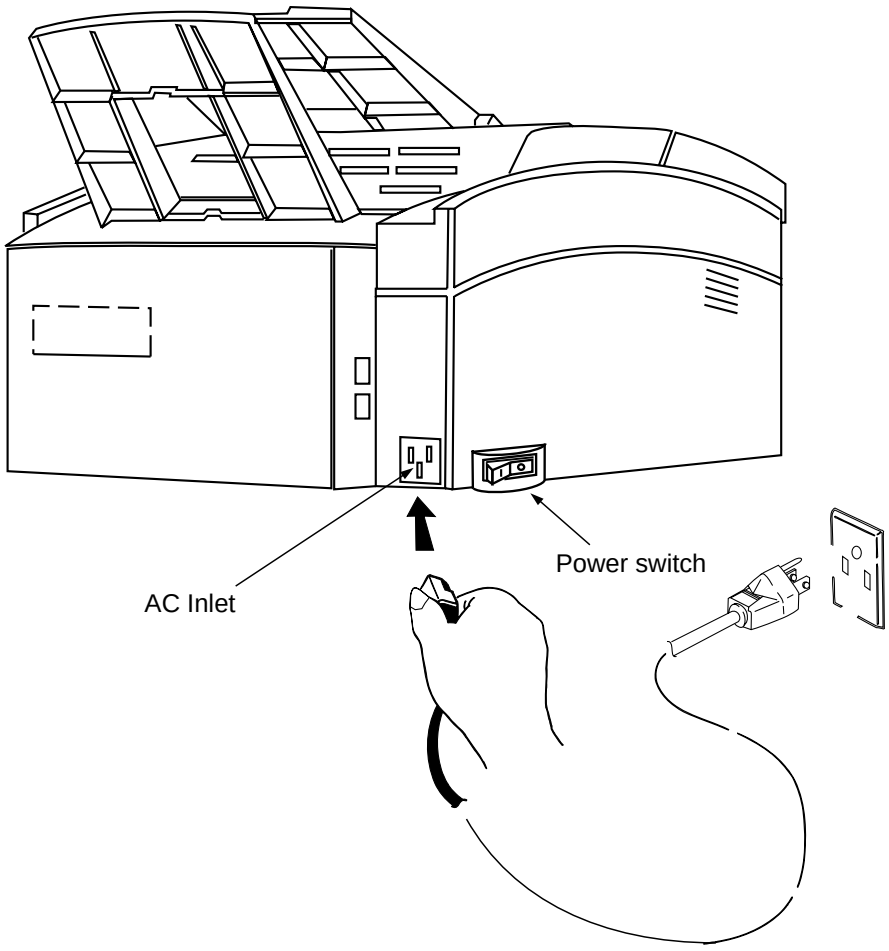
Figure 2.4 Document Stacker Installation

2.1.6 AC Cord Connection

The power supply is provided as follows.

Nominal input voltage 120VAC (Voltage range 102 to 127VAC)
Nominal input voltage 230VAC (Voltage range 198 to 250VAC)

Check whether the AC voltage of your input is within the above-mentioned voltage range and if so, check that the power switch is turned OFF. After turning off the power switch, connect the female plug of the AC cord to the machine and insert the male plug of the AC cord to the inlet receptacle.
Turn the power switch ON and check that the display shows “(Time)” message indicating the standby mode.



2.1.7 Telephone and Line Connections

(1) Procedure

• Connect the lines.

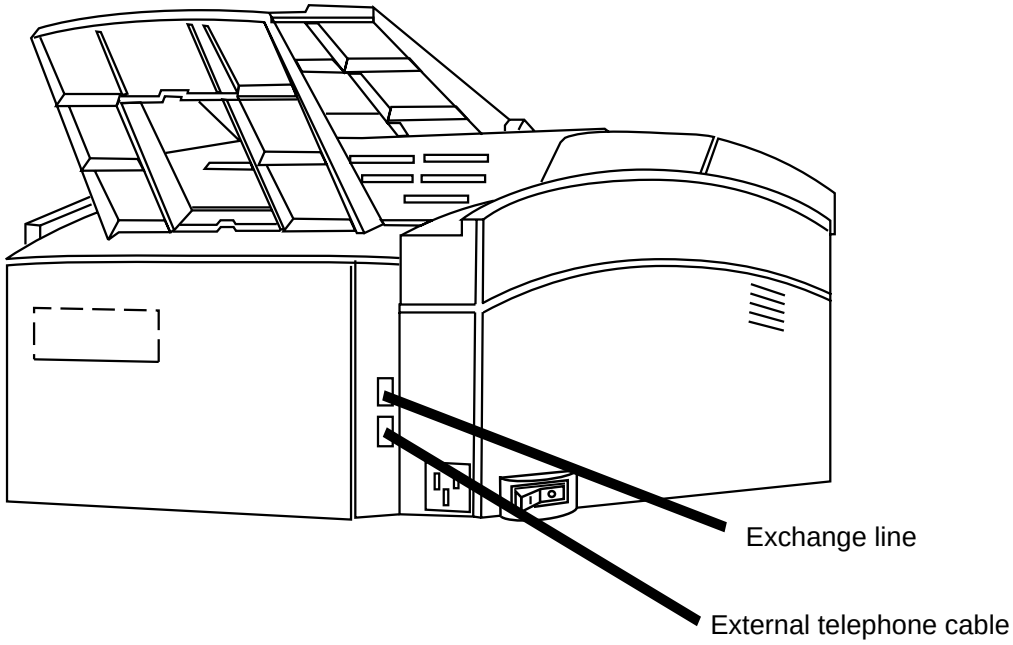


Figure 2.5 Telephone and Line Connections

2.1.8 Packing for Shipment

CAUTION: When packing the FX-046VP for shipment, REMOVE THE IMAGE DRUM AND TONER FROM THE UNIT AND SHIP SEPARATELY!
Failure to do this will result in damage to the machine.

2.2 Programming and Initial Settings

2.2.1 Initial Settings

2.2.1.1 General Procedure of Key Operation

Figure 2.6 shows the general procedure of key operation.

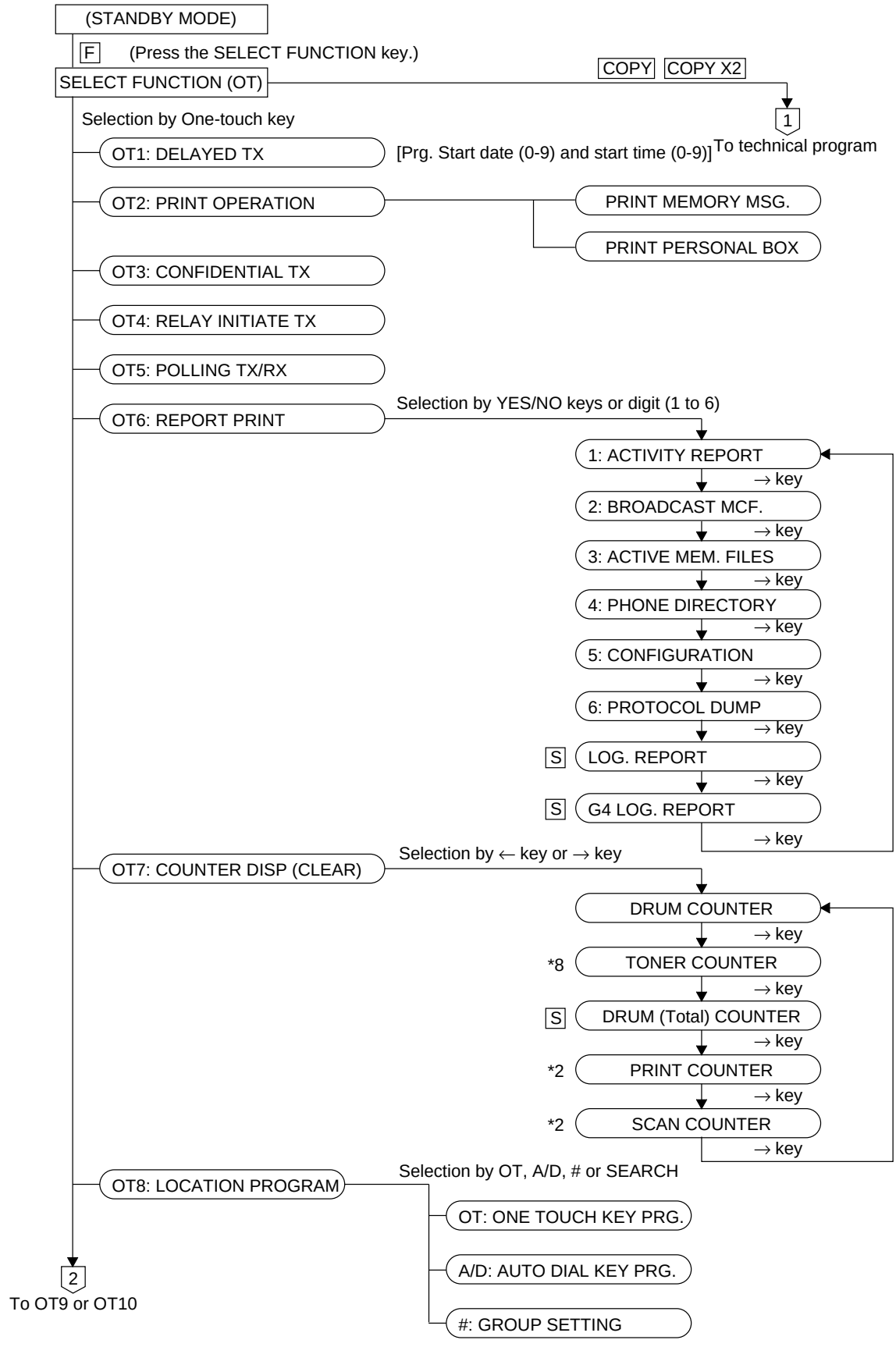


Figure 2.6 (1/3)

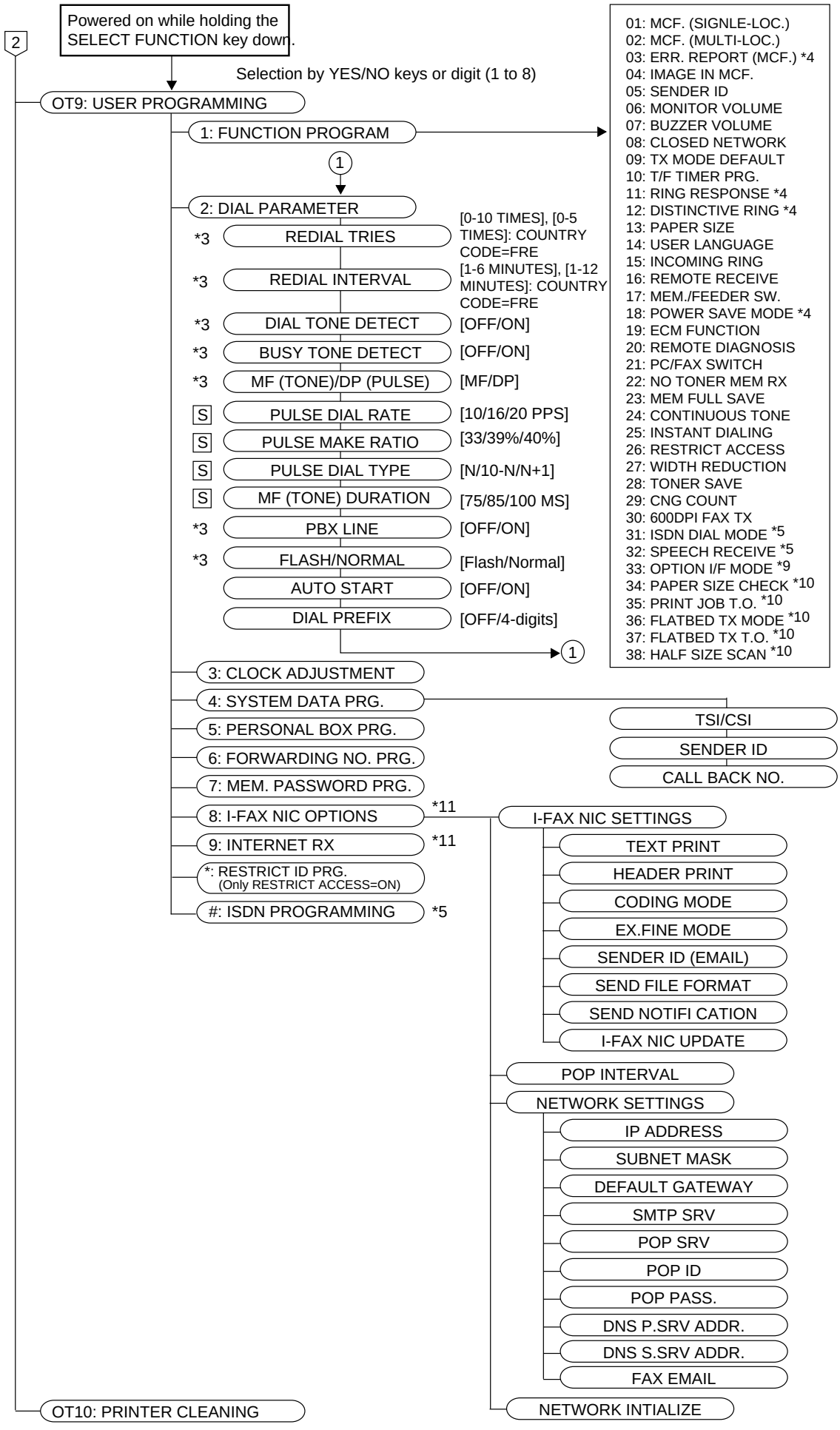

2
Powered on while holding the SELECT FUNCTION key down.
Selection by YES/NO keys or digit (1 to 8)
OT9: USER PROGRAMMING
1: FUNCTION PROGRAM
01: MCF. (SIGNLE-LOC.)
02: MCF. (MULTI-LOC.)
03: ERR. REPORT (MCF.) *4
04: IMAGE IN MCF.
05: SENDER ID
06: MONITOR VOLUME
07: BUZZER VOLUME
08: CLOSED NETWORK
09: TX MODE DEFAULT
10: T/F TIMER PRG.
11: RING RESPONSE *4
12: DISTINCTIVE RING *4
13: PAPER SIZE
14: USER LANGUAGE
15: INCOMING RING
16: REMOTE RECEIVE
17: MEM./FEEDER SW.
18: POWER SAVE MODE *4
19: ECM FUNCTION
20: REMOTE DIAGNOSIS
21: PC/FAX SWITCH
22: NO TONER MEM RX
23: MEM FULL SAVE
24: CONTINUOUS TONE
25: INSTANT DIALING
26: RESTRICT ACCESS
27: WIDTH REDUCTION
28: TONER SAVE
29: CNG COUNT
30: 600DPI FAX TX
31: ISDN DIAL MODE *5
32: SPEECH RECEIVE *5
33: OPTION I/F MODE *9
34: PAPER SIZE CHECK *10
35: PRINT JOB T.O. *10
36: FLATBED TX MODE *10
37: FLATBED TX T.O. *10
38: HALF SIZE SCAN *10
1
2: DIAL PARAMETER
*3 REDIAL TRIES [0-10 TIMES], [0-5 TIMES]: COUNTRY CODE=FRE
*3 REDIAL INTERVAL [1-6 MINUTES], [1-12 MINUTES]: COUNTRY CODE=FRE
*3 DIAL TONE DETECT [OFF/ON]
*3 BUSY TONE DETECT [OFF/ON]
*3 MF (TONE)/DP (PULSE) [MF/DP]
S PULSE DIAL RATE [10/16/20 PPS]
S PULSE MAKE RATIO [33/39%/40%]
S PULSE DIAL TYPE [N/10-N/N+1]
S MF (TONE) DURATION [75/85/100 MS]
*3 PBX LINE [OFF/ON]
*3 FLASH/NORMAL [Flash/Normal]
AUTO START [OFF/ON]
DIAL PREFIX [OFF/4-digits]
1
3: CLOCK ADJUSTMENT
4: SYSTEM DATA PRG.
TSI/CSI
SENDER ID
CALL BACK NO.
5: PERSONAL BOX PRG.
6: FORWARDING NO. PRG.
7: MEM. PASSWORD PRG.
8: I-FAX NIC OPTIONS *11
I-FAX NIC SETTINGS
TEXT PRINT
HEADER PRINT
CODING MODE
EX.FINE MODE
SENDER ID (EMAIL)
SEND FILE FORMAT
SEND NOTIFI CATION
I-FAX NIC UPDATE
9: INTERNET RX *11
*: RESTRICT ID PRG. (Only RESTRICT ACCESS=ON)
#: ISDN PROGRAMMING *5
POP INTERVAL
NETWORK SETTINGS
IP ADDRESS
SUBNET MASK
DEFAULT GATEWAY
SMTP SRV
POP SRV
POP ID
POP PASS.
DNS P.SRV ADDR.
DNS S.SRV ADDR.
FAX EMAIL
NETWORK INTIALIZE
OT10: PRINTER CLEANING

Figure 2.6 (2/3)

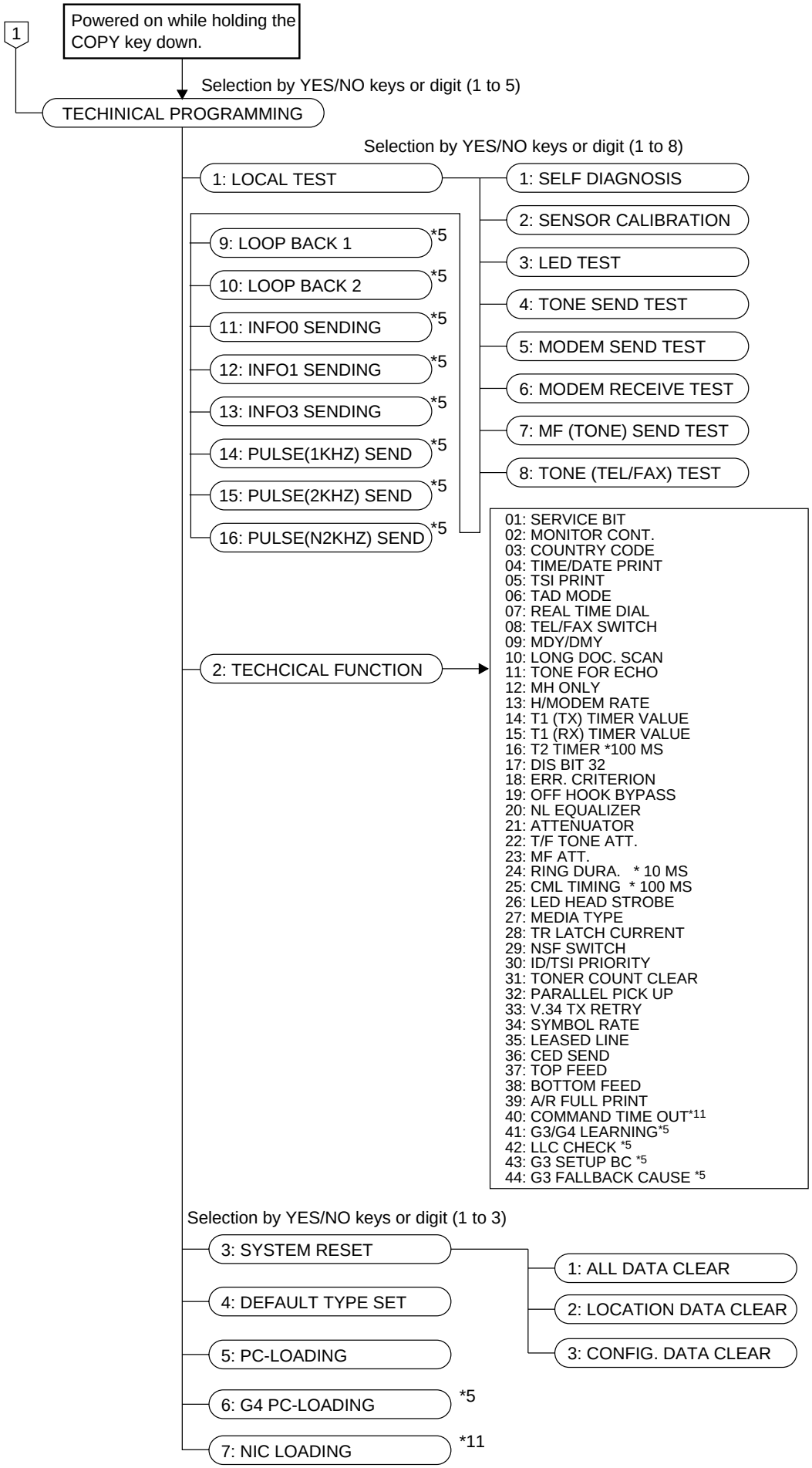

1
Powered on while holding the COPY key down.
Selection by YES/NO keys or digit (1 to 5)
TECHINICAL PROGRAMMING
Selection by YES/NO keys or digit (1 to 8)
1: LOCAL TEST
1: SELF DIAGNOSIS
2: SENSOR CALIBRATION
3: LED TEST
4: TONE SEND TEST
5: MODEM SEND TEST
6: MODEM RECEIVE TEST
7: MF (TONE) SEND TEST
8: TONE (TEL/FAX) TEST
9: LOOP BACK 1 *5
10: LOOP BACK 2 *5
11: INFO0 SENDING *5
12: INFO1 SENDING *5
13: INFO3 SENDING *5
14: PULSE(1KHZ) SEND *5
15: PULSE(2KHZ) SEND *5
16: PULSE(N2KHZ) SEND *5
2: TECHCICAL FUNCTION
01: SERVICE BIT
02: MONITOR CONT.
03: COUNTRY CODE
04: TIME/DATE PRINT
05: TSI PRINT
06: TAD MODE
07: REAL TIME DIAL
08: TEL/FAX SWITCH
09: MDY/DMY
10: LONG DOC. SCAN
11: TONE FOR ECHO
12: MH ONLY
13: H/MODEM RATE
14: T1 (TX) TIMER VALUE
15: T1 (RX) TIMER VALUE
16: T2 TIMER *100 MS
17: DIS BIT 32
18: ERR. CRITERION
19: OFF HOOK BYPASS
20: NL EQUALIZER
21: ATTENUATOR
22: T/F TONE ATT.
23: MF ATT.
24: RING DURA. * 10 MS
25: CML TIMING * 100 MS
26: LED HEAD STROBE
27: MEDIA TYPE
28: TR LATCH CURRENT
29: NSF SWITCH
30: ID/TSI PRIORITY
31: TONER COUNT CLEAR
32: PARALLEL PICK UP
33: V.34 TX RETRY
34: SYMBOL RATE
35: LEASED LINE
36: CED SEND
37: TOP FEED
38: BOTTOM FEED
39: A/R FULL PRINT
40: COMMAND TIME OUT*11
41: G3/G4 LEARNING*5
42: LLC CHECK *5
43: G3 SETUP BC *5
44: G3 FALLBACK CAUSE *5
Selection by YES/NO keys or digit (1 to 3)
3: SYSTEM RESET
1: ALL DATA CLEAR
2: LOCATION DATA CLEAR
3: CONFIG. DATA CLEAR
4: DEFAULT TYPE SET
5: PC-LOADING
6: G4 PC-LOADING *5
7: NIC LOADING *11

Figure 2.6 (3/3)

Note: When the machine is in POWER SAVE MODE, the machine returns to standby mode by pressing the START key.

*2: User can read no. of counter in LCD but can not clear.
*3: User can not select in some countries.
*4: When the service bit is set to OFF, ERR. REPORT (MCF.) of No. 03, RING RESPONSE of No. 11, DISTINCTIVE RING of No. 12 and POWER SAVE MODE of No. 18 are bypassed to the next function No. in some countries.
*5: Only when G4 opt. is installed.
*8: Displayed when TONER CONT CLEAR=ON or Service bit=ON.
*9: Displayed only when installed with a 1284 option.
*10: Displayed only when installed with a 1284 option when OPTION I/F MODE=SCN. or NET.
*11: Displayed only when installed with an I-FAX NIC option.
S: Effective if the service bit is set to ON.

2.2.1.2 Technical Functions

This section explains setting items generally conducted by service personnel, not by users.

Table 2.2 shows the initial setting items and their purposes. (The default setting is different by the individual countries.)
Each item can be accessed by entering the corresponding service number on Technical Function.

The detailed procedures of the initial setting items will be explained on the following pages.

Note 1: S-ON: Effective if the service bit has been set to ON.
FP: Function program setting
TF: Technical function setting

2: The fonts displayed on the LCD operation panel may differ from fonts written this manual.

Table 2.2 (1/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
01	Service bit	Switching serviceman/user operation. ON : Service personnel's features are available. OFF : Service personnel's features are not available. To enable or disable the following functions: • Drum (Total, Print, Scan), and toner counter clear • Dial parameters • etc
02	Line monitor control	Changing the audible monitoring range. FP +06 (To select the loudness of monitoring) ON : Enable OFF : Disable ***Note:*** In case of transmission mode, the monitor will be available during dialling, but the monitor will be switched off automatically after the elapse of specified time (about 5 sec.). However, when TF02 is set to ON, the monitor is available during communication also.
03	Country code	Selecting the following country code: USA, INT'L, GBR, IRL, NOR, SWE, FIN, DEN, GER, HUN, TCH, POL, SUI, AUT, BEL, HOL, FRE, POR, ESP, ITA, GRE, AUS, NZL, SIN, HNG, LTA, MEX, CHN, RUS, TWN
04	Time and date print	Enables or disables the function of printing local date and time at the top of the received page. OFF/ONCE/ALL selectable. OFF: Time and date are not printed ONCE: Time and date are printed at the top of the first page only. ALL: Time and date are printed at the top of every page. ***Note:*** Set at receiver.
05	TSI print	Switches the function of printing TSI data from remote fax onto the received pages. TSI is printed at the leading edge of first reproduced copy. (Set at receiver.) When TF04 is set to "ALL", TSI is printed for the all received pages. ON : Enable OFF : Disable (Reference) TSI; Transmitting Subscriber Identification

Table 2.2 (2/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
06	TAD mode (For external telephone answering device.)	Switches an automatic voice message response to the calling station. TAD mode is of three types (TYPE1/TYPE2/TYPE3). OFF/TYPE1/TYPE2/TYPE3 selectable. TYPE1 means: 1. RING comes. 2. The TAD answers, returns the recorded voice message in TAD to calling party. 3. The FAX machine will continue to detect CNG signal while TAD works. 4. If the FAX machine detects CNG signal, the fax will go into normal receiving mode. 5. Even though the fax does not detect CNG signal, the fax will go to receiving mode in hook-on condition. TYPE2 means: The operations of No. 1 to No. 4 are the same as those of TYPE 1. 5. If the fax does not detect CNG signal during working of TAD, the machine will go to standby mode. TYPE3 means: The operations of No. 1 to No. 2 are the same as those of TYPE 1. 3. The fax does not detect CNG signal during 15 seconds from TAD operation starting. 4. The fax starts CNG detection after 15 seconds from TAD operation. If the CNG is detected, the fax goes to the normal receive mode. 5. If the fax does not detect the CNG during TAD operation, the fax goes to standby mode.
07	Real time dialing	Enables or disables the real time dialling. 3 types selectable. (OFF/TYPE1/TYPE2) TYPE1: Real-time dialling is available when the telephone handset is OFF-HOOK. TYPE2: Real-time dialling is available when the telephone handset is OFF-HOOK or HOOK key is pressed.
08	TEL/FAX switching	Enables or disables the TEL/FAX automatic switching. ON : Enable OFF : Disable (Related item: FP10, TF22)

Table 2.2 (3/8) Service Personnel Initial Settings

<table>
<tr><th>T.F. No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>09</td><td>MDY/DMY</td><td>Switches LCD display and report print from month/day/ year to day/month/year or vice versa.
MDY/DMY selectable.</td></tr>
<tr><td>10</td><td>Long document SCAN</td><td>Switches the function of transmitting long-size document (more than 360 mm).

ON : 1500 mm or 60 min.
OFF : 360 mm or 60 min.

Note: 60 min is transmitting time.</td></tr>
<tr><td>11</td><td>Tone for Echo</td><td>Switches the function to apply to poor lines with echo in overseas transmission, etc.

ON: Enables
OFF: Disables

<table><tr><td>Echo Protection</td><td>OFF</td><td>ON</td></tr><tr><td>Ignore 1st DIS</td><td>OFF</td><td>ON</td></tr><tr><td>CED-DIS timer</td><td>75 ms</td><td>1.5 sec</td></tr><tr><td>Tone for echo</td><td>OFF</td><td>ON</td></tr></table>
(TF-11 table)</td></tr>
<tr><td>12</td><td>MH only</td><td>Switches the function of limiting image compression to the MH codes only.

ON : Coding scheme is MH only. When the receiving image data is affected by noise on the telephone line.
OFF : Any of MH, MR and MMR.</td></tr>
<tr><td>13</td><td>High-speed modem rate</td><td>Specifies the modem’s starting speed, 33.6K, 28.8K, 14.4k, 9.6k, or 4.8kbps.</td></tr>
<tr><td>14</td><td>T1 (TX), timeout value</td><td>T1 (TX) is a time to detect up to 3 flags of DIS sent from a called fax machine.
Registers the time duration (in seconds) for which the fax waits for the remote station’s answer.
This timer starts when the last dialled digit has been sent in the automatic transmission mode.

* Selects the 3 digit timer
010 to 255 sec selectable.(in one second steps)</td></tr>
<tr><td>15</td><td>T1 (RX), timeout value</td><td>T1 (RX), timeout value (later)
Registers the time duration (in seconds) for which the fax waits for the remote station’s answer of individual country’s specification. This timer starts after the DIS is transmitted.
If T1 times out, the fax disconnects the line.
* Selects the 3 digit timer
010 to 255 sec selectable. (in one second steps)</td></tr>
</table>

Table 2.2 (4/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
16	T2, timeout value	T2, timeout value (layer) Registers the time duration (in seconds) for which the receiving fax detects the EOL (End Of Line) signal during phase C. The fax will disconnect the line when EOL cannot be detected within T2. * Selects the 3 digit timer 001 to 255 selectable. (in 100ms steps) For example: 060 × 100 ms =6 s
17	DIS bit32	Selects whether a called fax should transmit DIS bit 32 or not. ON : Transmits DIS bit 32. OFF: Does not transmit DIS bit 32. (When OFF, the following fanctions will not be supported: • Reception of Extra Fine (8×15.4 line/mm) • 300 dpi • SEP/SUB frames ***Note:*** To improve compatibility between this fax machine and other company's fax machines. If communication error occurs frequently when a fax sender is an older version.
18	Error criterion	Registers the threshould value whether to transmit RTN or MCF signal when the error occurs in received data. 00% to 99% selectable. (in one percent steps)
19	Off-hook bypass	Switches the function of maintaining communication without hooking up the telephone set in normal testing etc. ON : Enable OFF: Disable
20	NL equalizer	Selects equalization for the following cable lengths: 0 DB/4 DB/8 DB/12 DB selectable. ***Note:*** Relative to 1700Hz for length of 0.4mm diameter cable. Equalizer level is the difference of gain of equalized signal between 0.3kHz and 3.4kHz.
21	Modem attenuator	Adjusts the attenuation (dB) for the message send signal power level. Adjusting value is 0 to 15 dB in one dB steps. Since the maximum send signal power level (dB) of the fax is at 0 dB, you can select 0 dB to -15 dB in one dB steps for the send signal power level.

Table 2.2 (5/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
		0 to 15 dB. selectable (except FRE) 7 to 15 dB, selectable (FRE) ***Note:*** The send signal power level should meet your country's regulation. Some countries may specify the power level at a telephone exchange. In that case, you should substract the specified level from the line cable attenuation to determine the send level of your fax.
22	T/F tone attenuator (for TEL/FAX SW)	Adjusts the attenuation (dB) for the quasi-ring back tone send signal of TEL/FAX switching. Adjusting value is 0 to 15 dB in one dB steps.
23	MF attenuator	Adjusts the attenuation (dB) for the send MF tone power level. Adjusting value is 0 to 15 dB in one dB steps.
24	Ring duration detection time	Selects the minimum ring detection time to meet country's requirements. Adjusting time is 100 MS to 990 MS in 10 MS steps. 10 to 99 selectable. For example: (120 ms) 12×10 ms = 120 ms
25	CML timing	Selects the time from end of ring to CML-ON. Adjusting time is 100 MS to 1900 MS in 100 MS steps. 0 to 19 selectable. For example: (300 ms) 03×100 ms = 300 ms
26	Strobe for LED head	Setting of LED print head strobe signals (00000-11111). Selection of strobe width in LED head. "00000" is lightest and "11111" is darkest. ***Note 1:*** When the rank marking of the new replaced LED print head (new part) is same as that of the old used LED print head (old part), you do not always have to set the LED print head strobe signal.

Table 2.2 (6/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
		Note 2: Intensity ranking is determined by the first, second and third digits from the right on the LED print head serial number. (i.e. in .... 212, 212 is the intensity ranking.)

Setting of Technical Function No. 26

Setting / Rank Marking	MSB ↑ LSB																													
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1
		0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
		0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
291–313										*																					
269–290											*																				
248–268												*																			
229–247													*																		
212–228														*																	
196–211															*																
181–195																*															
168–180																	*														
155–167																		*													
143–154																			*												
132–142																				*											
122–131																					*										
113–121																						*									
105–112																							*								
100–104																								*							

27	Media type	Selects the recording paper according to its quality. Medium, Medium-heavy and Heavy selectable.
28	Transfer roller latch current	Selects the latch current for transfer roller. (–2/–1/0/+1/+2)
29	NSF switch	NSF signal transmission selectable. ON: Transmits NSF signal OFF: Disables NSF signal ***Note:*** When NSF switch = OFF, the fax operation is shown as below. • When transmitting, even if OKI NSF signal is detected from the remote machine, the fax transmits DCS signal (The fax does not transmit NSC signal.) • When Remote Diag. = ON, the fax transmits NSF signal.

Table 2.2 (7/8) Service Personnel Initial Settings

<table>
<tr><th>T.F. No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>30</td><td>ID/TSI priority</td><td>Selects ID/TSI printing in the distant station ID column of the report.
ID: Prints NSF signal with personal ID.
TSI: Prints TSI signal without NSF.

<table>
<tr><th rowspan="2">Priority</th><th colspan="2">Set to ID</th><th colspan="2">Set to TSI</th></tr>
<tr><th>TX</th><th>RX</th><th>TX</th><th>RX</th></tr>
<tr><td>1</td><td>Personal ID</td><td>Personal ID</td><td>CSI</td><td>TSI</td></tr>
<tr><td>2</td><td>CSI</td><td>TSI</td><td>Dial No.</td><td>Dial No.</td></tr>
<tr><td>3</td><td>Dial ID</td><td>Dial ID</td><td>Personal ID</td><td>Personal ID</td></tr>
<tr><td>4</td><td>Dial No.</td><td>Dial No.</td><td>-</td><td>-</td></tr>
</table>
</td></tr>
<tr><td>31</td><td>Toner Count Clear</td><td>Enables or disables the clear operating of Toner Counter Clear (OT7) without Service bit ON/OFF (TF01).
ON: Enables
OFF: Disables</td></tr>
<tr><td>32</td><td>Parallel Pick Up</td><td>To control a receiving fax by 2 digits (the same digits as remote reception) from a telephone set connected parallel to the telephone line.
ON: To enable
OFF: To disable
(For the details, see Appendix A1, Section 4.3. Outline of Parallel Pick Up.)</td></tr>
<tr><td>33</td><td>V.34 TX Retray</td><td>Determine whether the V.34 communication error is to be remembered.
ON: Remembered
OFF: Not remembered</td></tr>
<tr><td>34</td><td>Symbol Rate</td><td>Set the V.34 modem symbol rate.
2400/3000/3200/3429 selectable.</td></tr>
<tr><td>35</td><td>Leased Line</td><td>Sets to leased line mode for China. When setting to this mode, CML, DP, and SR relays must be always set to ON. Sending on leased line is performed with document ON, no address designation and pressing of the START key.
Receiving on leased line is performed by answering automatically when detecting PIS or CNG.
ON: Leased line mode
OFF: No leased line mode</td></tr>
<tr><td>36</td><td>CED Send</td><td>Sets to send CED or not at the time of incoming call.
ON: Sending CED
OFF: Not sending CED</td></tr>
</table>

Table 2.2 (8/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
37	Top Feed	Adjusts read start position of various machines. -10 to +9 mm (in steps of 1 mm)
38	Bottom Feed	Adjusts read end position of various machines. -2 to +10 mm (in steps of 1 mm)
39	A/R FULL PRINT	Set whether to print automatically after every 50 Activity Report transmissions. ON: Print OFF: Does not print
40	COMMAND TIME OUT	Set the length of timeout for SMTP and POP3 protocols. 30SEC/5MIN
41	G3/G4 Learning	Sets up whether to learn G3/G4 communication. ON: Learn OFF: Not learn * Setting disabled if without ISDN option.
42	LLC Check	Determine whether the lower layer compatibility information instracted from the calling side is analyzed. ON: Analyzed OFF: Not analyzed * The setting data must be transferred to the G4 board. * Cannot be selected when G4 option board is not installed.
43	G3 Setup BC	Sets to send speech by BC of SETUP at making a G3I call as there exists an ISDN-PBX which accepts only the incoming call for speech purpose (BC=speech) Speech (for speech purpose) 3.1kHz (for communication Purpose)
44	G3 Fallback Cause (54 kinds of service code)	Enables to select service code for automatic fallback to G3 transmission if G4 transmission is faulty. There are 54 kinds of service codes that can be selected. (Refer to G3 fallback service code list). The service code not selected is dealt with as communication error. Settings values: Setting enabled only when G4 opt. is mounted.

Table 2.3 (1/2) Technical Default Setting

No.	Technical Setting Items	Setting Selection	1 ODA	2 LTA	3 E-INT	4 GER	5 E-FRE	6 0-AUS	7 0-NZL	8 0-SIN	9 0-HNG	10 L-AG	11 IRL	12 DEN	13 SWE	Note
1	SERVICE BIT	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
2	MONITOR CONT.	ON/OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
3	COUNTRY CODE	USA INT'L GBR IRL NOR SWE FIN DEN GER HUN TCH POL SUI AUT BEL HOL FRE POR ESP ITA GRE AUS NZL SIN HNG LTA MEX CHN RUS TWN	USA	LTA	GBR	GER	FRE	AUS	NZL	SIN	HNG	USA	IRL	DEN	SWE	
4	TIME/DATE PRINT	0: OFF/ 1: ONCE/2: ALL	OFF	OFF	OFF	ALL	OFF	ONCE	ALL	ONCE	OFF	OFF	OFF	ONCE	ONCE	
5	TSI PRINT	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
6	TAD MODE	0: OFF/ 1: TYPE1/2: TYPE2/3: TYPE3	TYP2	TYP2	OFF	TYP1	TYP1	OFF	TYP1	OFF	OFF	TYP2	OFF	TYP2	TYP2	
7	REAL TIME DIAL	0: OFF/ 1: TYPE1/2: TYPE2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	
8	TEL/FAX SW	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
9	MDY/DMY	0: MDY/ 1: DMY	MDY	MDY	DMY	DMY	DMY	DMY	DMY	DMY	DMY	MDY	DMY	MDY	MDY	
10	LONG DOC. SCAN	ON/OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	
11	TONE FOR ECHO	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
12	MH ONLY	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
13	H/MODEM RATE	33.6K/28.8K/14.4K/9.6K/4.8K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	
14	T1(TX) TIMER VALUE	010 - 255 sec	59	59	60	60	140	40	40	60	30	59	60	60	60	
15	T1(RX) TIMER VALUE	010 - 255 sec	35	35	35	35	35	35	35	35	35	35	35	35	35	
16	T2 TIMER VALUE	001 - 255 (100ms - 25.5 sec)	130	130	130	60	51	130	130	130	130	130	130	130	130	Base Timer=100ms
17	DIS BIT 32	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
18	ERR. CRITERION	0 - 99	10	10	10	10	10	10	10	10	10	10	10	10	10	
19	OFF HOOK BYPASS	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
20	NL EQULIZER	0 DB/4 DB/8 DB/12 DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	
21	ATTENUATOR	0 - 15dB	11dB	10dB	10dB	10dB	10dB	9dB	9dB	9dB	9dB	11dB	10dB	10dB	10dB	FRE = 7 - 15DB
22	T/F TONE ATT	0 - 15dB	11dB	10dB	9dB	7dB	11dB	9dB	9dB	9dB	9dB	11dB	9dB	10dB	9dB	
23	MF. ATT	0 - 15dB	6dB	7dB	5dB	5dB	5dB	4dB	6dB	4dB	7dB	6dB	5dB	5dB	5dB	
24	RING DURA. *10MS	10 - 99 (*10 ms)	12	12	14	14	60	12	14	14	14	12	14	12	14	
25	CML TIMING *100MS	1 - 19 (*100 ms)	3	3	3	3	15	3	12	12	12	3	3	3	1	
26	HEAD STROBE	00000 - 11111	10100	10100	10100	10100	10100	10100	10100	10100	10100	10100	10100	10100	10100	
27	MEDIA TYPE	M/MH/H	M	M	M	M	M	M	M	M	M	M	M	M	M	
28	TR LATCH CURRENT	-2/-1/0/+1/+2	0	0	0	0	0	0	0	0	0	0	0	0	0	
29	NSF SWITCH	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
30	ID/TSI PRIORITY	ID/TSI	ID	ID	ID	TSI	ID	ID	ID	ID	ID	ID	ID	ID	ID	
31	TONER COUNT CLEAR	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
32	PARALLEL PICK UP	ON/OFF	ON	ON	ON	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	
33	V.34 TX RETRY	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
34	SYMBOL RATE	2400/3000/3200/3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	
35	LEASED LINE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
36	CED SEND	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
37	TOP FEED	-10mm ~ +9mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	
38	BOTTOM FEED	-2mm ~ +10mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	
39	A/R FULL PRINT	ON/OFF	ON	ON	OFF	ON	OFF	ON	ON	ON	ON	ON	OFF	OFF	OFF	
40	COMMAND TIME OUT	30 SEC/5 MIN	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	
41	G3/G4 LEARNING	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
42	LLC CHECK	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	30 SEC	30 SEC	30 SEC	30 SEC	
43	G3 SETUP BC	3.1K/SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	
44	G3 FALLBACK CAUSE	select from all 50 kinds of service codes	It doesn't have default data with each default type. Only one kind has data as a device.													

E-XXX=OEL-XXX, O-XXX=OKI-XXX, L-XXX=LANIER-XXX

Note: As for the setting of the part of mesh, Default-data does'nt exist in the Default-file. This setting has the data which are characteristic of the device.

Table 2.3 (2/2) Technical Default Setting

No.	Technical Setting Items	Setting Selection	14 NOR	15 SUI	16 AUT	17 HOL	18 ITA	19 ESP	20 CHN	(21) Factory	Note
1	SERVICE BIT	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	
2	MONITOR CONT.	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	
3	COUNTRY CODE	USA INT'L GBR IRL NOR SWE FIN DEN GER HUN TCH POL SUI AUT BEL HOL FRE POR ESP ITA GRE AUS NZL SIN HNG LTA CHN MEX RUS	NOR	SUI	AUT	HOL	ITA	ESP	CHN	INT'L	
4	TIME/DATE PRINT	0: OFF/ 1: ONCE/2: ALL	OFF	ALL	ALL	ONCE	ALL	ONCE	OFF	ONCE	
5	TSI PRINT	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
6	TAD MODE	0: OFF/ 1: TYPE1/2: TYPE2/3: TYPE3	OFF	TYP1	TYP1	TYP1	OFF	TYP2	TYP2	OFF	
7	REAL TIME DIAL	0: OFF/ 1: TYPE1/2: TYPE2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	
8	TEL/FAX SW	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
9	MDY/DMY	0: MDY/ 1: DMY	DMY	DMY	DMY	DMY	DMY	DMY	MDY	MDY	
10	LONG DOC. SCAN	ON/OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	
11	TONE FOR ECHO	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
12	MH ONLY	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
13	H/MODEM RATE	33.6K/28.8K/14.4K/9.6K/4.8K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	
14	T1(TX) TIMER VALUE	010 - 255 sec	60	60	60	60	40	45	45	60	
15	T1(RX) TIMER VALUE	010 - 255 sec	35	35	35	35	35	35	35	35	
16	T2 TIMER VALUE	001 - 255 (100ms - 25.5 sec)	130	60	60	130	130	51	130	130	Base Timer=100ms
17	DIS BIT 32	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
18	ERR. CRITERION	0 - 99	10	10	10	10	10	10	10	10	
19	OFF HOOK BYPASS	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
20	NL EQULIZER	0 DB/4 DB/8 DB/12 DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	
21	ATTENUATOR	0 - 15dB	10dB	10dB	10dB	10dB	10dB	10dB	10dB	10dB	FRE = 7 - 15DB
22	T/F TONE ATT	0 - 15dB	9dB	7dB	7dB	10dB	12dB	10dB	8dB	10dB	
23	MF. ATT	0 - 15dB	5dB	5dB	5dB	5dB	5dB	5dB	4dB	7dB	
24	RING DURA. *10MS	10 - 99 (*10 ms)	14	14	11	14	14	14	12	12	
25	CML TIMING *100MS	1 - 19 (*100 ms)	3	3	3	11	3	3	3	3	
26	HEAD STROBE	00000 - 11111	10100	10100	10100	10100	10100	10100	10100	10100	
27	MEDIA TYPE	M/MH/H	M	M	M	M	M	M	M	M	
28	TR LATCH CURRENT	-2/-1/0/+1/+2	0	0	0	0	0	0	0	0	
29	NSF SWITCH	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
30	ID/TSI PRIORITY	ID/TSI	ID	TSI	TSI	ID	ID	ID	ID	ID	
31	TONER COUNT CLEAR	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
32	PARALLEL PICK UP	ON/OFF	ON	OFF	OFF	OFF	ON	OFF	OFF	ON	
33	V.34 TX RETRY	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
34	SYMBOL RATE	2400/2800/3200/3429	3429	3429	3429	3429	3429	3429	3429	3429	
35	LEASED LINE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
36	CED SEND	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
37	TOP FEED	-10mm ~ +9mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	
38	BOTTOM FEED	-2mm ~ +10mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	
39	A/R FULL PRINT	ON/OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON	
40	COMMAND TIME OUT	30 SEC/5 MIN	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	
41	G3/G4 LEARNING	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
42	LLC CHECK	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
43	G3 SETUP BC	3.1K/SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	
44	G3 FALLBACK CAUSE	select from all 50 kinds of service codes	It doesn't have default data with each default type. Only one kind has data as a device.								

E-XXX=OEL-XXX, O-XXX=OKI-XXX, L-XXX=LANIER-XXX

Note: As for the setting of the part of mesh, Default-data does'nt exist in the Default-file. This setting has the data which are characteristic of the device.

Oki Data CONFIDENTIAL

1) TEL/FAX automatic switching

This function is used for the purpose of TEL/FAX automatic switching as follows.

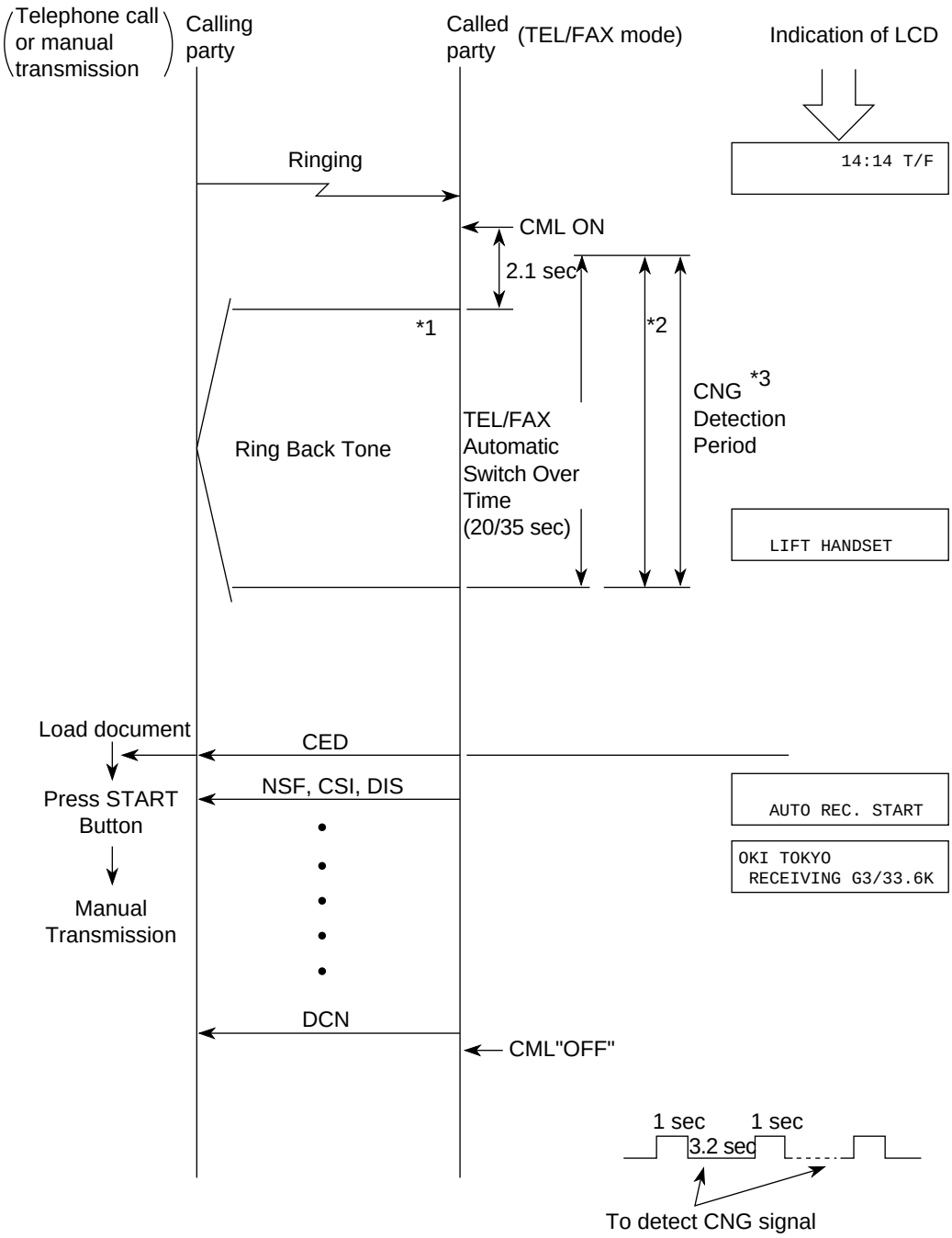
(1) If the machine detects a call with a CNG signal indicating an auto send facsimile call, it starts an automatic document receiving operation.

(2) If machine detects a call without a CNG signal, machine generates the buzzer sounds as a telephone call. The calling person can hear a “ring back” tone within a predetermined time.

If the operator at the called side does not lift the handset within the predetermined time, the machine automatically starts a document receiving operation.
Voice conversation will automatically be available through the handset by lifting up the handset while the call buzzer is sounding.

Note 1: The predetermined time is selectable between 20 or 35 sec.
(Function program No. 10)
2: No ringing signal is sent to the external telephone handset.
3: Choice of message sending level. The level is selectable from 0 to 15 dB in one dB step.
(Technical function No. 22)
4: TEL/FAX mode is available by Technical Function No. 08.

• TEL/FAX mode flow chart



Note ****1:*** Ring Back Tone — 1 sec. ON, 3.2 sec. OFF
****2:*** When you want to talk by phone, pick up handset.
****3:*** The called party can send CED to the calling party immediately to start FAX communication if the CNG is detected during the period.
****4:*** If the fax does not detect CNG signal during working of TEL/FAX mode, LCD display indicates “LIFT HANDSET”.

2) TAD mode

TAD: Telephone Answering Device

TAD can be connected to external telephone terminal to record your messages.

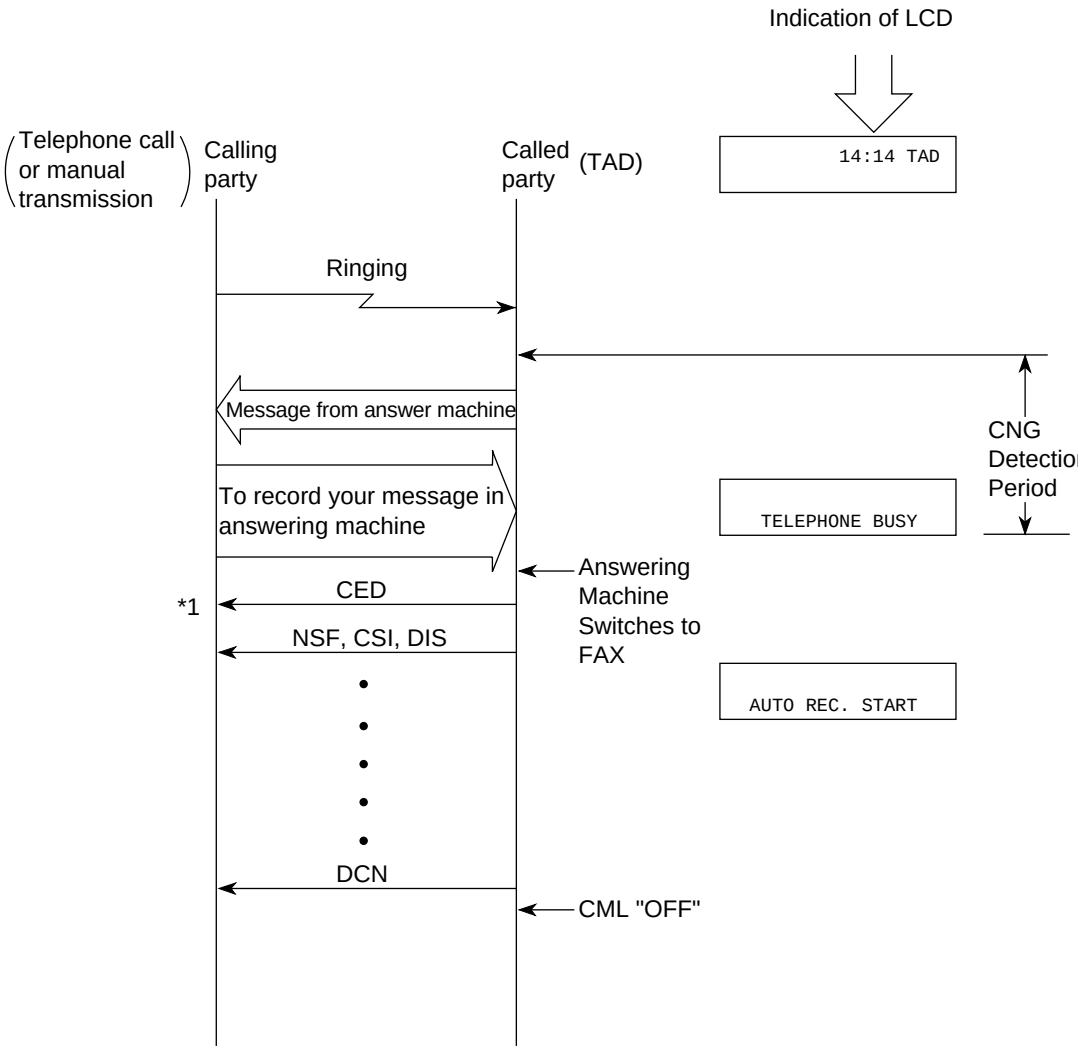
TAD records your speech and switches an automatic voice message response to the calling station.

Note 1: A choice of TAD mode is available by Technical Function No. 06.
2: The predetermined time is selectable between 20 or 35 sec.

• TAD mode flow chart

In case of TYPE 1;

Even though the fax does not detect CNG signal, the fax will go to receiving mode.



****1:*** To enable the manual TX mode.
Load document → Press START button → Manual transmission

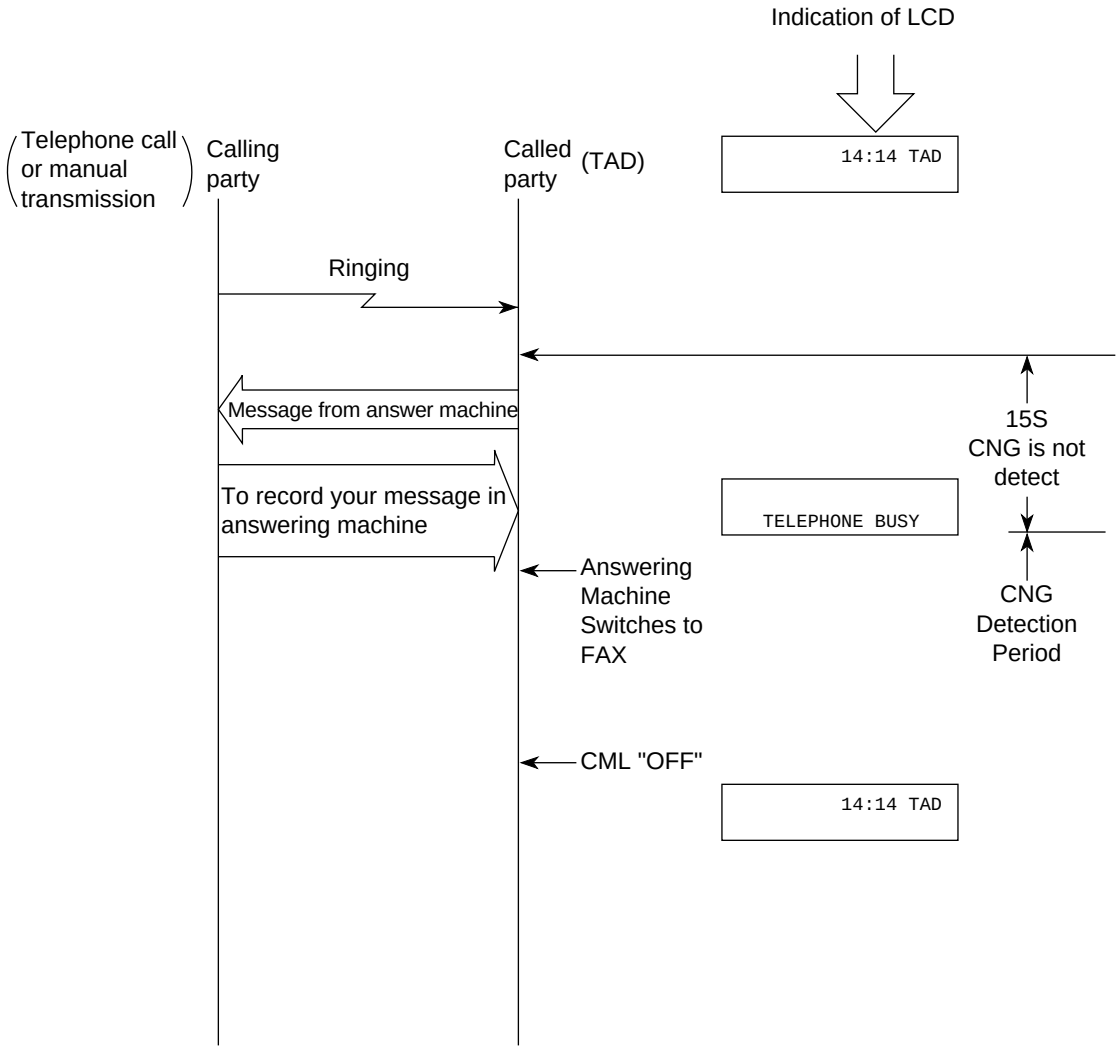
• TAD mode flow chart

In case of TYPE 2:

If the fax does not detect CNG signal during working of TAD, the machine will go to standby mode.

In case of TYPE 3:

The fax does not detect CNG signal during 15 seconds from TAD operation starting. The fax starts CNG signal detection after 15 seconds from TAD operation.
When the fax does not detect CNG signal and ends TAD operation (on-hook of TAD operation), the fax return to standby state.



2.2.1.3 Technical Functions Example

Note: The fonts displayed on the LCD operation panel may differ from the fonts written this manual.

(1) Service Bit Setting

1) Purpose
To enable or disable the following functions:
- Drum and toner counter display (clear)
- Service default report printing
- Protocol dump report printing
- Ring response time setting
- Dial parameters setting
- Printer counters clearing

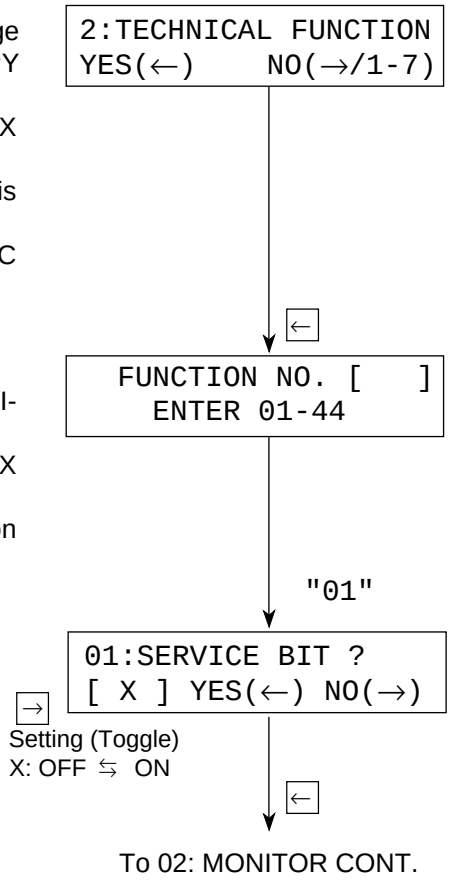
2) Procedure

Operations: **The display shows:**

- To bring the LCD up to the desired message press SELECT FUNCTION key once, COPY key twice and "2"key.
 (→ /1-5) is displayed when G4 option/I-FAX NIC option are not installed.
 (→ /1-6) is displayed when a G4 option is installed.
 (→ /1-7) is displayed when an I-FAX NIC option is installed.

- Press [←] key.
 ENTER 01-39 is displayed when G4 option/I-FAX NIC option are not installed.
 ENTER 01-40 is displayed when an I-FAX NIC option is installed.
 ENTER 01-44 is displayed when a G4 option is installed.

- Service bit setting is T.F. No. 01.
 Enter "01"



Reference: See Figure 2.6 on the next page for the general operation flow.

(2) Technical functions

Operations:

- Press SELECT FUNCTION key.
- Press COPY key twice.
- Press ← key.
- Press → key.
- Press ← key.
- Enter two-digit function number, then the display will show the set item corresponding to the number entered. If you want to set up all or several items starting with 01, then enter 01.

The display shows:

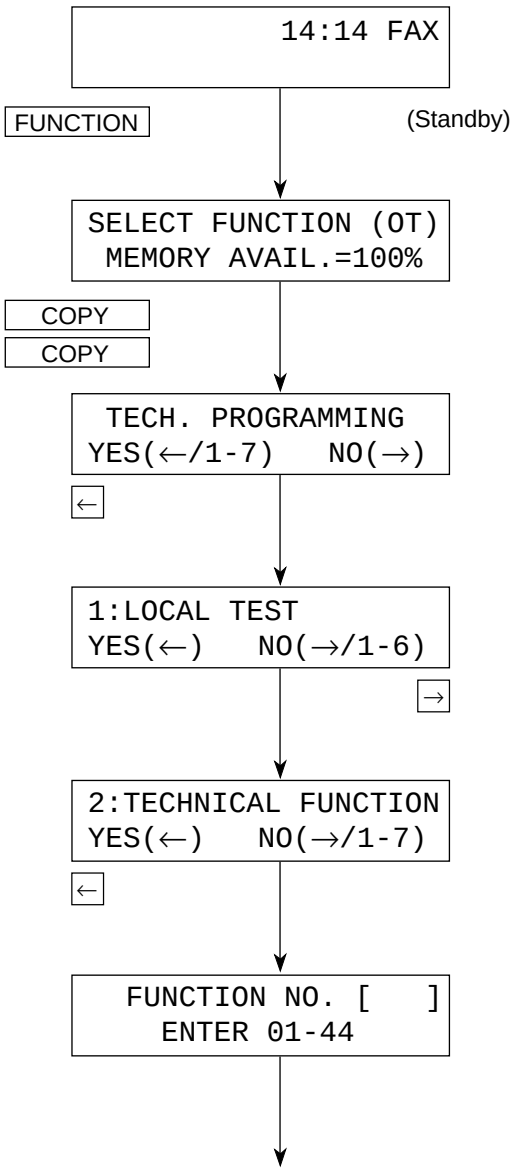


Table 2.4 (1/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
01	Service bit	01:SERVICE BIT [X] YES(←) NO(→) [→] Setting (Toggle) X: OFF ⇆ ON
02	Line monitor control	02:MONITOR CONT. [X] YES(←) NO(→) [→] Setting (Toggle) X: OFF ⇆ ON
03	Country code	03:COUNTRY CODE [X] YES(←) NO(→) [→] Setting X: USA→ INT → •••• TWN
04	Time and date print	04:TIME/DATE PRINT [X] YES(←) NO(→) [→] Setting X: OFF→ ONCE→ →ALL
05	TSI print	05:TSI PRINT [X] YES(←) NO(→) [→] Setting (Toggle) X: OFF ⇆ ON
06	TAD mode (For external telephone answering device.)	06:TAD MODE [X] YES(←) NO(→) [→] Setting X: OFF→ TYPE1→ →TYPE2→TYPE3
07	Real-time dialling	07:REAL TIME DIAL [X] YES(←) NO(→) [→] Setting X: OFF→ TYPE1→ →TYPE2
08	TEL/FAX switching	08:TEL/FAX SWITCH [X] YES(←) NO(→) [→] Setting (Toggle) X: OFF ⇆ ON
09	MDY/DMY format	09:MDY/DMY [X] YES(←) NO(→) [→] Setting (Toggle) X: MDY ⇆ DMY
10	Long document transmission	10:LONG DOC. SCAN [X] YES(←) NO(→) [→] Setting (Toggle) X: OFF ⇆ ON

Table 2.4 (2/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
11	Tone for echo (echo protection)	11:TONE FOR ECHO [X] YES(←) NO(→) [→] Setting (Toggle) X: OFF ⇆ ON
12	MH only	12:MH ONLY [X] YES(←) NO(→) [→] Setting (Toggle) X: OFF ⇆ ON
13	High-speed modem rate	13:H/MODEM RATE [X] YES(←) NO(→) [→] Setting X: 4.8k→ 9.6k → → 14.4k → 28.8k → 33.6k
14	T1 (TX), timeout value (XTTO value)	14:T1(TX)TIMER VALUE [X] YES(←) NO(→) [→] X: 010 - 255 sec 14:T1(TX)TIMER VALUE [_] ENTER 010-255 3-digit timer entered. 14:T1(TX)TIMER VALUE [060] YES(←) NO(→) (Example)
15	T1 (RX), timeout value	15:T1(RX)TIMER VALUE [X] YES(←) NO(→) [→] X: 010 - 255 sec 15:T1(RX)TIMER VALUE [_] ENTER 010-255 3-digit timer entered. 15:T1(RX)TIMER VALUE [035] YES(←) NO(→) (Example)

Table 2.4 (3/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
16	T2, timeout value	16:T2 TIMER *100MS [X] YES(←) NO(→) → X: 001 - 255 16:T2 TIMER *100MS [_] ENTER 001-255 3-digit timer entered. 16:T2 TIMER *100MS [059] YES(←) NO(→) (Example)
17	DIS bit 32	17:DIS BIT32 [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
18	Error criterion	18:ERR. CRITERION [X] YES(←) NO(→) → X: 00 - 99% 18:ERR. CRITERION [_] ENTER 00-99 2-digit timer entered. 18:ERR. CRITERION [10] YES(←) NO(→) (Example)
19	Off-hook bypass	19:OFF HOOK BYPASS [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
20	NL equalizer	20:NL EQUALIZER [X] YES(←) NO(→) → Setting X:0 DB→ 4 DB → → 8 DB → 12 DB
21	Modem attenuator	21:ATTENUATOR [X] YES(←) NO(→) → Setting X:0 DB → 1 DB → 2 DB → ····· → 15 DB → 0 DB → ••••
22	T/F tone attenuator (for TEL/FAX switch)	22:T/F TONE ATT. [X] YES(←) NO(→) → Setting X:0 DB → 1 DB → 2 DB → ····· → 15 DB → 0 DB → ••••

Table 2.4 (4/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
23	MF attenuator	23:MF ATT. [X] YES(←) NO(→) [→] Setting X:0 DB → 1 DB → 2 DB → ····· → 15 DB → 0 DB → ••••
24	Ring duration detection time	24:RING DURA. *10 MS [X] YES(←) NO(→) [→] X: 10 - 99 24:RING DURA. *10 MS [_] ENTER 10-99 2-digit timer entered. 24:RING DURA. *10 MS [14] YES(←) NO(→) (Example)
25	CML timing	25:CML TIMING *100MS [X] YES(←) NO(→) [→] X: 01 - 19 25:CML TIMING *100MS [_] ENTER 01-19 2-digit timer entered. 25:CML TIMING *100MS [03] YES(←) NO(→) (Example)
26	LED Head strobe	26:LED HEAD STROBE [X] YES(←) NO(→) [→] X:5digits (0/1) 26:LED HEAD STROBE [_] ENTER 0/1 0/1 entered. 26:LED HEAD STROBE [01101]YES(←) NO(→) (Example)

Table 2.4 (5/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
27	Media type	27:MEDIA TYPE [X] YES(←) NO(→) → Setting X: M → MH → H
28	Transfer roller clatch current	28:TR LATCH CURRENT [X] YES(←) NO(→) → Setting X:-2 → -1 → 0 → +1 → +2
29	NSF switch	29:NSF SWITCH [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
30	ID/TSI priority	30:ID/TSI PRIORITY [X] YES(←) NO(→) → Setting (Toggle) X: ID ⇆ TSI
31	Toner count clear	31:TONER COUNT CLEAR [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
32	Parallel Pick Up	32:PARALLEL PICK UP [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
33	V.34 TX retry	33:V.34 TX RETRY [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
34	Symbol rate	34:SYMBOL RATE [X] YES(←) NO(→) → Setting (Toggle) X:2400 → 3000 → 3200 → 3429
35	Leased line	35:LEASED LINE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
36	CED send	36:CED SEND [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
37	Top feed	37:TOP FEED [X] YES(←) NO(→) → Setting X:1→ 2 → 3•••9 → -1 → -2 → -3•••-10 → 0

Table 2.4 (6/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
38	Bottom feed	38:BOTTOM FEED [X] YES(←) NO(→) [→] Setting X:1→ 2 → 3•••10→ -1 → -2 → -3 ••• 0 → -2
39	A/R Full print	39:A/R FULL PRINT [X] YES(←) NO(→) [→] Setting (Toggle) X: OFF ⇆ ON
40	Command time out	40:COMMAND TIME OUT [X] YES(←) NO(→) Note 3 [→] Setting (Toggle) X: 30 SEC ⇆ 5 MIN
41	G3/G4 learning	41:G3/G4 LEARNING [X] YES(←) NO(→) Note 1 [→] Setting (Toggle) X: OFF ⇆ ON
42	LLC check (Lower layer compatibility information)	42:LLC CHECK [X] YES(←) NO(→) Note 1 [→] Setting (Toggle) X: OFF ⇆ ON
43	G3 setup BC	43:G3 SETUP BC [X] YES(←) NO(→) Note 1 [→] Setting (Toggle) X: OFF ⇆ ON
44	G3 Fallback cause	Note 1 Note 2 44:G3 FALLBACK CAUSE [BA01] YES(←) NO(→) → key 44:G3 FALLBACK CAUSE [*BA01] YES(←) NO(→) ← key ← key 44:G3 FALLBACK CAUSE [BA02] YES(←) NO(→) ← key 44:G3 FALLBACK CAUSE [BB07] YES(←) NO(→) ← key FUNCTION NUMBER [_] ENTER 01-43

Note 1: Changed only when G4 opt. mounted.

2: • 54 types of service codes are displayed in order by pressing the ← key. (See G3 fallback service code list)
- Use the → key to change whether G3 fallback is targeted.
- An asterisk * just before the service code is performed by G3 fallback.
- The set values selected until now are valid even when the STOP key is pressed during processing.

3: • Only when an I-FAX NIC option is installed.

Table 2.5 G3 Fallback Object Service Code List (If G4 TX is faulty)

Classification	Code	Description
Dch layer 3	BA01	Unallocated (unassigned) number
	BA02	No route to specified transit network
	BA03	No route to destination
	BA06	Channel unacceptable
	BA07	Call awarded and being delivered in an established channel
	BA10	Procedure sequence error, Line disconnected during in-band procedure
	BA11	User busy
	BA12	No user responding
	BA13	No answer from user (user alerted)
	BA15	Call rejected
	BA16	Number changed
	BA1A	Non-selected user clearing
	BA1B	Destination out of order
	BA1C	Invalid number format
	BA1D	Facility rejected
	BA1E	Response to STATUS-ENQUIRY
	BA1F	Normal, unspecified
	BA22	No circuit/channel available
	BA26	Network out of order
	BA29	Temporary failure
	BA2A	Switching equipment congestion
	BA2B	Access information discarded
	BA2C	Requested circuit/channel not available
	BA2F	Resources unavailable, unspecified
	BA31	Quality of service unavailable
	BA32	Requested facility not subscribed
	BA39	Bearer capability not authorized
	BA3A	Bearer capability not presently available
	BA3F	Service or option not available, unspecified
	BA41	Bearer capability not implemented
	BA42	Channel type not implemented
	BA45	Requested facility not implemented
	BA46	Only restricted digital information bearer capability is available
	BA4F	Service or option not implemented, unspecified
	BA51	Invalid call reference value
	BA52	Identified channel does not exist
	BA53	A suspended call exists, but this call identity does not
	BA54	Call identity in use
	BA55	No call suspended
	BA56	Call having the requested call identity has been cleared
	BA58	Incompatible destination
	BA5B	Invalid transit network selection
	BA5F	Invalid message, unspecified
	BA60	Mandatory information element is missing
	BA61	Message type non-existent or not implemented
	BA62	Message not compatible with call state or message type non-existent or not implemented
	BA63	Information element non-existent or not implemented
	BA64	Invalid information element contents
	BA65	Message not compatible with call state
	BA66	Recovery on timer expiry
	BA6F	Protocol error, unspecified
	BA7F	Interworking, unspecified
	BB01	CONN message wait time out
	BB07	Reset request by network

All service code can be selected by G3 Fallback cause (Technical function: No. 43)

2.2.1.4 User's Functions

This section explains the items usually set up by general users.

Table 2.6 shows the initial setting items and their purposes.

Each F.P.can be accessed by entering the corresponding function number on Function Programming.

The detailed procedure of the initial setting items will be explained on the following pages.

Note: S-ON: Effective if the service bit has been set on.
FP: Function program setting
TF: Technical function setting

1) User's Functions

Table 2.6 (1/7) User's Functions

No.	Item	Specifications
1	Auto dial	
	1) One-touch dial	10 one-touch keys are provided. Max. 40 digits for each location number. In addition to an ordinary location number, another alternate location number can be registered in to each one-touch key. Purposes of this alternate location number, When a call to the first location number is not answered, the alternate location number will be automatically dialled. Capable of registering an e-mail address when installed with an I-FAX NIC option. Up to 64 characters can be input. Capable of designating a File Format or adding a Sender ID.
	2) Three-digit dial	100 different codes are provided. Three-digit location code; 001 to 100 Max. 40 digits for each location number.
	3) Keypad dial	With ten-key pad. Max. 40 digits for one operation
	4) Chain dial	The number of dialling digits can be expanded to longer digit numbers by chaining any number of the above 1), 2) and 3).
	5) Mixed dial	Type of dialling can be changed from pulse dial to tone dial halfway in dialling process. The changing point is specified by the * key. This feature is not available in all countries.
2	Manual dial	With a telephone handset.
3	Receive mode	
	1) Auto receive mode	Selectable by key operation.
	2) Manual recevice mode	Selectable by key operation.
	3) Telephone/fax automatic switchover	Selectable by key operation. The fax recognizes a fax call from a verbal call as follows: If the fax detects a call with a CNG signal, it starts an automatic document receive operation. If it detects a call without a CNG signal, it sounds the buzzer to indicate a voice call. Operator can answer the call by lifting the telephone handset. If he or she does not lift the handset within predetermined time (20 sec. or 35 sec.), the fax automatically starts a document receive operation. * FP + 10 (To determine the timer.) ***Note:*** Refer to page 109.

Table 2.6 (4/7) User's Functions

No.	Item	Specifications
4	Automatic redial	PTT parameter setting disables or enables this feature, and specifies redial times and redial intervals. * See 2.2.1.9 for the service bit condition depending on PTT parameters.
5	Last No. redial	"REDIAL" key is provided. There is no limit on number of repeat attempts. If machine is in Power Save mode (not available for ODA version) manual redial with REDIAL key is not possible.
6	Group dial	• 10 dialling groups Max. 110 locations Grouping some one-touch keys and some three-digit auto dial codes to which telephone numbers have been assigned. This group setting makes broadcast operation simple. 1) OT for E-mail registration can be mixed with OT/AD for Tel No. registration. 2) Search processing by the SEARCH key is performed. • OT for Tel or E-mail registration is searched.
7	Telephone directory and location ID (Alpha search)	In addition to fax numbers, an alpha/ numeric name can be assigned to each of one-touch keys and three-digit dial codes. Any location ID can be searched and displayed on LCD. Then direct dialling to the ID's station can be performed. There are two methods of searching: (1) Search based on the first character specified. (2) Searching by displaying all registered location IDs one after another in the lexicographical order. Location ID: Max. 15 characters
8	Local copy	Printing resolution: Horizontal: 300 dpi (Fine, EX Fine), 200 dpi (STD) Vertical: 3.85 (STD), 7.7 (Fine) or 15.4 line/mm (EX Fine)
9	Multiple local copy	Up to 50 copies.
10	Manual loading feeder	One single sheet from the feeder below the paper exit can be copied. Example of sheets:Transparency for an overhead projector

Table 2.6 (5/7) User's Functions

No.	Item	Specifications
11	Broadcast (Memory transmission)	Max. 120 remote locations can be specified by the following means: • One-touch keys. • Three-digit auto dial codes. • 10 keypad dial number (Max.10) The setting of delayed transmission and delayed broadcast must not exceed the total number of specified time. When multiple locations are specified for one broadcast (1) The fax prints a broadcast entry report, if specified in operating sequence. (2) The fax can print a broadcast confirmation report. (FP + 02 To enable or disable this printout)
12	Delayed transmission from the memory	The fax can automatically transmit documents at 10 specified times from the memory.
13	Polling transmission (To be polled)	Document(s) placed on the feeder or a transmission image stored in memory can be collected by a remote station.
14	Polling reception	The fax can collect documents from one remote station.
15	Bulletin polling	A kind of polling transmission. Bulletin polling enables polling transmission many times until deleting the documents stored in the memory.
16	Transmission preparation (Hopper)	An operator can prepare documents for transmission even while the fax is enagaged in message reception. They will be automatically transmitted upon completion of the reception. An operator can also prepare documents for transmission during transmission from memory.
17	No toner reception	The fax can temporarily store received messages in memory when toner has run out. The messages are printed when toner has been newly supplied or an operator presses the SELECT FUNCTION key followed by the one-touch key No. 2 under the LCD message “PRINT MEMORY MSG.” in the standby mode. *FP + 22 (To enable or disable this function)
18	Smooth printing	The documents received in the STD mode can be printed at the FINE resolution by means of generating one line based on the two consecutive original lines and printing it between them.

Table 2.6 (6/7) User's Functions

No.	Item	Specifications
19	Dual Access	The documents for transmission can be read into the memory even while the fax is engaged in another memory transmission, reception in the ECM or non-ECM mode. 1) Operation of memory transmission while the fax is engaged in a communication (memory TX, memory RX or print mode RX). 2) Copy while the fax is engaged in a communication (memory TX or memory RX). ***Note:*** Condition for operation a) Copy is invalid when the machine is already engaged in an operation which is using or could use the printer. 3) Call reception while the fax is engaged in scanning documents for memory transmission when the auto receive mode is in “FAX” or “T/F” mode, although “TEL” mode is not valid. Refer to sub-section 2.2.1.7 for dual access operation. For the patterns of dual access refer to the following, Dual Access Combination Table.

Table 2.6 (7/7) User's Functions

No.	Item	Specifications

Dual Access Combination Table

1'st \ 2'nd		Reception	Prefeed	Remote input display	Preparation TX	Scanning to Memory
ON HOOK	Standby	○	○	○	○	○
	During FAX Calling	×	○	○	○	○
Call Reception	During RING RESPONSE	×	○	○	○	○
	During detection of TEL/FAX	×	○	×	×	×
	During TAD detection	×	○	×	×	×
	1st Phase B	×	○	○	○	○
Feeder TX	Calling ~ Transmission	×	×	×	×	×
	Transmission after scanning	×	○	○	○	○
Memory TX	During Scanning	○	×	×	×	×
	Dialling and Calling	×	○	○	○	○
	During TX	×	○	○	○	○
Polling RX	Dialling and Calling	×	○	○	○	○
Memory RX		×	○	○	○	○
Paper RX	Reception and print	×	○	○	○	○
	Residual Print Processing	○	○	○	○	○
	Memory reception	×	○	○	○	○
During voice request is initiated.		×	○	×	×	×
During copy		○	○	×	×	×
During automatic printing of received messages		○	○	○	○	○
During automatic printing of reports		○	○	○	○	○
During operation		×	○	×	×	×

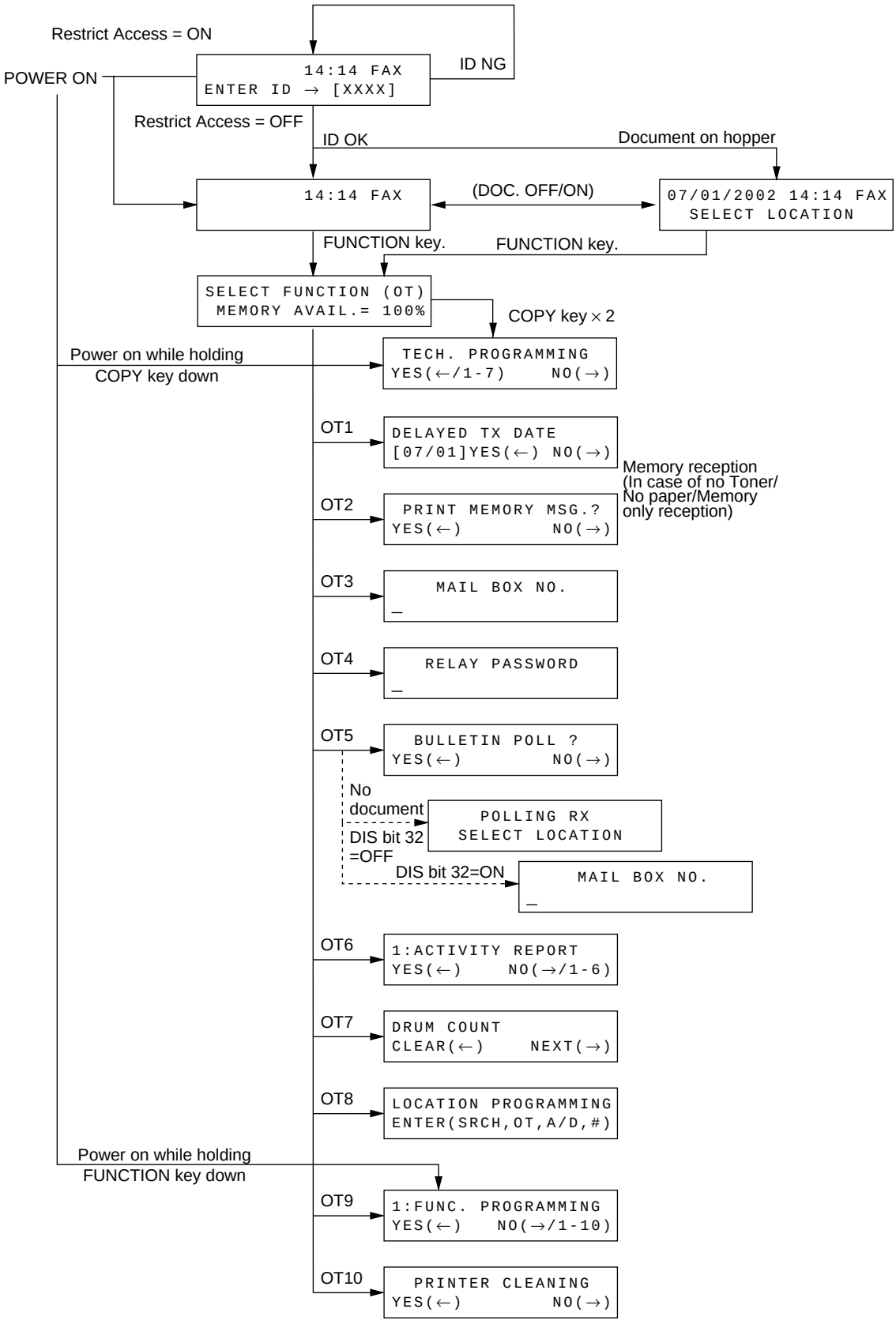
* Operation during communication is not determined yet.

<Note> ○: Available, ×: Not available

2) User's Initial Settings

Note: The fonts displayed on the LCD operation panel may differ from fonts written this manual.

2)-1 One Touch Key Operations



Note: OT2, OT6 - OT10 are invalid during PC printing.

Table 2.7 (1/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
1	Delayed transmission (TX)	This function enters a message transmission time(s) and location(s) for execution at a specified time. 10 specified times can be registered (within 3 days.)
2	Print from Message in Memory (Print Memory MSG.)	To print out the received messages from memory in "MSG. IN MEMORY" mode, or when the machine has run out of recording paper (including the door open and no toner state). When received messages are in the memory. "MSM. IN MEMORY" is indicated on the LCD. When printing in the Memory Only Reception, an operator has to print the received message by the Memory message printing operation.
	Print from Confidential Reception Message (Print Personal Box)	To print out the confidential received messages in the memory with 1-digit personal box number. The maximum number of personal boxes is 8. Personal boxes are numbered 1 to 8. When confidential received messages are in the memory, "MESSAGE IN MEMORY" is indicated on the LCD.
3	Confidential transmission	This function transmits a Confidential-marked message to any one of 64 predesignated mailboxes provided in a distant machines. To program the mail box number 01 to 64. Available remote station's mail box numbers: OKIFAX 2400/2600: 01 to 40 OKIFAX 1000: 01 to 16 OKIFAX 2300/OF-18/OF-150: 01 to 16 OKIFAX 38/OF-27: 01 to 64 OKIFAX 2350/1050: 01 to 08 OKIFAX 2450: 01 to 08 OKIFAX 5200/5300: 01 to 08 OKIFAX 5500/5600: 01 to 16 OKIFAX 5700/5900: 01 to 16 OKIFAX 5750/5950: 01 to 16 OKIFAX 5780/5980: 01 to 16 OKIOFFICE84/OKIFAX 4500: 01 to 08 OKIFAX 4550/OKIOFFICE87: 01 to 08 OKIFAX 4580: 01 to 08 OKIFAX 5400/5650: 01 to 16 Also capable of confidential transmissions by designating a SUB number for a different company's device that supports a confidential transmission function with a SUB capacity.
4	Relay broadcast initiate transmission	This function automatically originates a message call via relay key station (which must be equipped with OKIFAX 2600, OF-38, OF-27, OKIFAX5950 or equivalent) up to 120 locations for OKIFAX 2600 and 99 locations for OF-38 or OF-27. To program relay password. To enable or disable the relay report. When auto dial code number 100 is not assigned, relay broadcast report is not transmitted. When it is assigned, relay report is transmitted to fax number assigned to auto dial code. Also capable of relay request transmissions by designating a SUB number for a different company's device that supports a relay function with a SUB capacity.

Table 2.7 (2/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
5	Polling transmission/reception	Polling TX: The documents placed on the feeder or a transmission image stored in memory can be collected by a remote station. Bulletin polling: A kind of polling transmission. Bulletin polling enables polling transmission many times until deleting the documents from one remote station. Polling RX: The fax can collect documents from one remote station. Also capable of Selective Polling by designating a SEP number for a different company's device that supports a polling function with a SEP capacity.
6	Report printing	The report print in 6 items are as follows: 1. Activity report 2. Broadcast message confirmation report (Multi location) 3. Activity memory files report 4. Phone directory report 5. Configuration list without service default (Service default report if service bit sets to ON.) 6. Protocol dump list 7. Log report (Set to on Service bit) 8. G4 Log. report (Operatable only at G4 opt. & Service Bit = ON) * Refer to Reports and Lists of Chapter 1.
7	Selection of Counter display	The operation for displaying and clearing the print counters in five ways are as follows: 1. Drum counter When I/D unit reaches run-out time, "CHANGE DRUM" is appeared in LCD. Under above condition, user can see the Drum message and clear. However, No. of counter is not shown for user (Service bit=OFF). After user changed the Drum and clear operation, "CHANGE DRUM" in LCD is displayed. However, the drum counter clear is possible even if the drum is not at the end of its lifespan. 2. Toner counter This counter provided to serviceman to check the number of toner counter. When srvice bit=OFF, this counter message is skipped. When service bit=ON, this counter is cleared by operation. When TF31=ON, this counter is cleared by operation without Service bit ON/OFF (TF01). (User can clear the toner counter.) 3. Drum (T) counter This counter to serviceman to know the total number of DRUM counter for the machine. When service bit=OFF, this counter message is skipped. When service bit=ON, this counter is cleared by operation.

Table 2.7 (3/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
		4. Print counter This counter is provided to user. Display shows how many times recording paper has been printed. But user cannot clear this number. 5. Scan counter This counter is provided to user. Display shows how many times document has been passed the ADF. But user cannot clear this number.
8	Location program 1. One-touch key	One-touch keys allow registering: (1) Telephone number (numeral, -, P and space) in 40 digits. (2) Alternate fax telephone number in 40 digits. (additional registration) (3) ID for the telephone directory function in 15 characters (alphabetic, numeric and symbolic). (4) 10 one-touch keys are provided.
	2. Three-digit auto dial program	Auto-dial No. 001 to 100 allows registering telephone number in 40 digits and ID for the telephone directory maximum 15 characters (alphabetic, numeric and symbolic).
	3. Group setting	Grouping some one-touch keys and some three-digit auto dial codes to which telephone numbers have been assigned. 10 group programming are available. The group programming makes multiple polling reception and broadcast operation simple.
9	User's programs 1. Function program	01: MCF (SINGLE-LOC.) 02: MCF (MULTI-LOC.) 03: ERR. REPORT (MCF.) 04: IMAGE IN MCF. 05: SENDER ID 06: MONITOR VOLUME 07: BUZZER VOLUME 08: CLOSED NETWORK 09: TX MODE DEFAULT 10: T/F TIMER PRG. 11: RING RESPONSE 12: DISTINCTIVE RING 13: PAPER SIZE 14: USER LANGUAGE 15: INCOMING RING 16: REMOTE RECEIVE 17: MEM./FEEDER SW. 18: POWER SAVE MODE 19: ECM FUNCTION 20: REMOTE DIAGNOSIS 21: PC/FAX SWITCH 22: NO TONER MEM RX 23: MEM FULL SAVE 24: CONTINUOUS TONE 25: INSTANT DIALING 26: RESTRICTED ACCESS 27: WIDTH REDUCTION 28: TONER SAVE 29: CNG COUNT 30: 600 DPI FAX TX 31: ISDN DIAL MODE

Table 2.7 (4/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
		32: SPEECH RECEIVE 33: OPTION I/F MODE 34: PAPER SIZE CHECK 35: PRINT JOB T.O. 36: FLATBED TX MODE 37: FLATBED TX T.O. 38: HALF SIZE SCAN Refer to Table 2.7 for specification of the function programs No. 01 through 34.
	2. Dial parameters	1. REDIAL TRIES 2. REDIAL INTERVAL 3. DIAL TONE DETECT 4. BUSY TONE DETECT 5. MF (TONE)/DP (PULSE) 6. PULSE DIAL RATE 7. PULSE MAKE RATIO 8. PULSE DIAL TYPE 9. MF(TONE) DURATION 10. PBX LINE 11. FLASH/NORMAL 12. AUTO START 13. DIAL PREFIX
	3. Clock adjustment	Refer to Table 2.6 and 2.2.1.9 for specification of dial parameter settings.
	4. System data program	Date and time adjustment. ***Note:*** Data outside 1996 to 2095 cannot be registered. (1) TSI/CSI Registration of TSI/CSI/CIG (numbers, + and space) in 20 digits. TSI: Transmitting Subscriber Identification CSI: Called Subscriber Identification CIG: Calling Subscriber Identification (2) SENDER ID Registration of sender ID (alphabetic, numeric and symbolic) in 32 digits. (3) CALL BACK NO. Registration of telephone number for call-back message (alphabetic, numeric and symbolic) in 20 digits.
	5. Personal box programming	To allow the operator (in this case, a person who wishes to assign a password to personal box) to assign a two functions to 8 personal-box. (a) Confidential RX (b) Bulletin Polling TX Used with confidential RX and Bulletin polling TX and Advanced T30 protocol. Personal box setting for Bulletin poll using SEP frame and Confidential using SUB frame when remote machine has a SEP/SUB capability. The box No. 0 is used for only global Bulletin Polling TX.

Table 2.7 (5/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
	6. Forwarding number programming	Specify the destination of forwarding for incoming call. Ahen the transfer destination telephone number is set, forwarding can be specified. The message is first received in the memory and when this reception is completed, the fax automatically transfers the message to one designated location. 1) Number of forwarding for incoming call destination that can be specified. 2) Number of characters used to specify a destination. MAX 40 characters.
	7. Memory password programming	Registering the password required (4-digit numerals) for outputting the data received by Memory Only Reception mode or change from Memory Only Reception mode. When the four-digit numeric password is registered. The password input is required upon outputting documents or change from Memory Only reception mode.
	8. I-FAX NIC OPTIONS	Capable of operating when installed with an I-FAX NIC option. The following settings become capable. 1) I-FAX NIC SETTINGS Capable of setting items related to I-FAX such as Coding Mode or File Format. 2) POP INTERVAL Capable of selecting from OFF/1MIN/5MIN/10MIN/ 30MIN/60MIN/4 user-programmed times. 3) NETWORK SETTINGS Settings related to network connection such as IP Address and Subnet Mask become capable. Furthermore, the data is stored in the I-FAX NIC option side. 4) Capable of initializing data stored in the I-FAX NIC option board. For details, refer to “I-FAX NIC OPTION” in the Appendix.
	9. INTERNET RX	Capable of operating when installed with an I-FAX NIC option. Capable of manual POP reception. For details, refer to “I-FAX NIC OPTION” in the Appendix.
	10. Restrict ID programming	Restrict ID is a function available only person who knows Password, and this function can register 24 types of ID (Department No.) when Restrict Access of user's setting No. 26 is set to ON. * Only when Restrict Access = ON.

Table 2.7 (5/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
	11. ISDN programming	Sets to Country code, ISDN No. (subscriber number), ISDN ID (subscriber code) and ISDN sub address. 1) Setting values This setting consists of the following: • Country code: 3 characters (digits only) • ISDN No. (subscriber number): 20 characters (digits only) • ISDN ID (subscriber code): 10 characters (alphabetic characters, lowercase characters) • ISDN sub address: 19 characters (digits only) Handling in G3 mode Handling in G4 mode Used for sub collation. ***Note:*** This setting can be made when G4 option is mounted.
10	Printer cleaning	This drum cleaning function removes the residual toner on the I/D (image drum) Unit surface by printing.

2)-2 Function Program

Table 2.8 (1/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
01	Message confirmation report (Single location)	Enables or disables the automatic message confirmation report printing after a single location call. ON: Printing the MCF report. OFF: Disables this function.
02	Message confirmation report (Multiple locations)	Enables or disables the automatic message confirmation report printing after a multiple polling or broadcast. ON: Prints the MCF report. OFF: Disables this function.
03	Error report (MCF)	Enables or disables the automatic error report printing when transmission error occurs. (Excepts for SERVICE CODE “0000”.) ON: Printing the error report. OFF: Disables this function.
04	Image in MCF	Selects the automatic printing of the image on the first sheet below the message confirmation report. PART: Prints the front portion in equal size. WHOLE: Reduces in the sub-scan direction and prints the entire image. OFF: Disables this function.
05	Sender ID	The fax can transmit programmed alphanumeric message, such as company’s name consisting of up to 32 characters. Enables or disables the sender ID function. * (Outside only) ON: Enables OFF: Disables
06	Monitor Volume	Controls the volume. OFF/Low/Mid./H-Mid./High selectable.
07	Buzzer volume	Selects the sound volume of each buzzer (end of communication buzzer, voice request buzzer and off-hook alarm) and software ringer from high, low and middle levels. Low/Mid/High selectable. ***Note:*** Fixed a low level for key touch tone.

Table 2.8 (2/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
08	Closed network	The fax compares lower four digits of TSI/CSI received from remote station with fax numbers registered locally for one-touch dial and three-digits autodial. If unmatched, the communication will be automatically disconnected. OFF/RX only/TX and RX selectable. * Prevention of direct mail or wrong number calls. (Reference) TSI: Transmitting subscriber identification CSI: Called subscriber identification
09	TX mode default	Selects automatically the mode set up when a document is loaded on the feeder. The following combinations are selectable. STD/NORMAL→STD/DARK→STD/LIGHT→ FINE/NORMAL→FINE/DARK→FINE/LIGHT→ EX.FINE/NORMAL→EX.FINE/DARK→ EX.FINE/LIGHT→PHOTO/NORMAL→ PHOTO/DARK→PHOTO/LIGHT→ STD/NORMAL→ • • •
10	Telephone/fax automatic switchover time	Specifies the time for which the fax alerts an operator on reception of a call in the telephone/fax automatic swichover mode. 20 sec./35 sec. selectable Refer to page 2-30
11	Ring response time	User can register ring response time if National code is: INT'L, GBR, NOR, SWE, USA, HOL, ESP. ITA, GRE, IRL, FIN, DEN, HUN, TCH, POL, POR, LTA, MEX, CHN, RUS, TWN or GER Selects the ring response time. 1 ring/5/10/15/20 sec. selectable.
12	Distinct ring	Specifies the detected distinct ring. (not available in all countries) OFF/ON/SET selectable.
13	Paper size	Selects A4, LETTER or LEGAL 13˜, LEGAL 14˜ by this function. The operator must select the preferable paper size as the machine cannot detect the paper size automatically.
14	User language	A choice of 5 languages for LCD and print message are available. GER, FRE etc. are displayed insted of OTHER. ENGLI/OTHER selectable.

Table 2.8 (3/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
15	Incoming ring	Instead of ringer circuit, software can control built-in speaker to ring sound. To enable (ON) or disable (OFF) or distinctive ring (DRC) a software generated ring sound to indicate arrival of an incoming bell.
16	Remote receive	This function is used to transfer a call received by an external telephone set (connected to fax) by entering two-digit MF tones if the remote receive setting is not OFF The following combinations are selectable. 00/11/22/33/44/55/66/77/88/99/**/##/OFF selectable. ***Note:*** Parallel pick-up control inhibited when this is set to OFF.
17	Memory and feeder switch	Switches the transmission mode between the memory and feeder. MEM. TX/FEEDER TX selectable. ***Note:*** This function becomes effective when Instant Dial of No. 25 is set to OFF.
18	Power save mode	The power supply will be fed to all circuits of a fax machine whenever the fax goes to the operating state. The power save mode has reduced the power consumption at standby to below 0.5 W. ***Note:*** Power save mode is not available for ODA version. Pre-heating time (Standby to print): Approx 30 sec Eanbles or disables power save mode ON: Enables OFF: Disables
19	ECM function	Enables or disables ECM (error corection mode) communication. ON: Enables OFF: Disables
20	Remote diagnosis	Enables or disables the remote diagnosis function when the machine can allow remote diagnosis from remote center. ON: Enables OFF: Disables
21	PC/FAX switch	To enable or disable PC interface function. When PC reception is not available, for example, application is not activated on the PC or cable is missing between PC and fax etc., this setting allows to switch from PC to fax reception automatically. ON: Automatically change to fax reception OFF: No reception

Table 2.8 (4/6) User's Initial Settings (Function Program)

<table>
<tr><th>P.F. No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>22</td><td>No toner memory reception (NO Toner MEM RX)</td><td>Enables or disables the memory reception when the fax is the toner low condition.

ON: Receives the message in the memory reception when the fax is the toner low condition. The messages are printed when toner has been newly supplied.
OFF: Prints the message even the remaining toner level is low or none. Print quality is not guaranteed.</td></tr>
<tr><td>23</td><td>Memory full save (MEM Full Save)</td><td>Broadcast transmission and other features originate calls after all the document read in memory. When Memory Full occurs during reading documents and operator time out occur, all the readout data must be deleted (OFF setting) or all the data must be sent (ON setting).
Select either ON or OFF setting as follows:

ON: Selecting display
OFF: Selecting delete at all times.

Note: Operator timeout means operator does not respond during 59 seconds.</td></tr>
<tr><td>24</td><td>Continuous Tone</td><td>Setting of sounding warning tone after reception.

ON: Warning tone sounding stops by operator's STOP key pressing
OFF: No warning tone</td></tr>
<tr><td>25</td><td>Instant Dialing</td><td>Setting to start reading documents upon call origination when transmitting.

ON: Dialing while document scanning
OFF: Dialing after document scanning</td></tr>
<tr><td>26</td><td>Restricted Access</td><td>Restricted Access limits accessible users by setting a password beforehand. Inputting the password then enables the user's access to the machine (FAX terminal).

ON: Enables Restricted Access
OFF: Disables</td></tr>
<tr><td>27</td><td>Width Reduction</td><td>This function can print characters written at the edges of a document.
Switches the reduction of the horizontal scanning direction.

ON: Reduction printing (216 mm to 203 mm)
Reduction rate is shown as below.
Copy
<table><tr><td>A4 size</td><td>97.4%</td></tr><tr><td>Except A4 size</td><td>94.3%</td></tr></table>Reception message
<table><tr><td>300 DPI</td></tr><tr><td>92.6%</td></tr></table>OFF: 203 mm printing</td></tr>
</table>

Table 2.8 (5/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
28	Toner save	Determine whether toner saving is to be performed furing fax printing. When a LAN/PC printer is used, this setting is ignored and the command from the host is executed. ON(Toner saving performed)/OFF(Toner saving is not performed)
29	CNG Count	When T/F, TAD, or Parallel pickup is operatimg in CNG signal detection processing, this setting can be shifted to the facsimile reception mode at the time of number of CNG signal detedction times are equal to the set values. 1 - 5 (in one-tray steps) • Selection is skipped over when the ISDN board is mounted (sellection allowed if SERVICE BIT = ON).
30	600 DPI FAX TX	Set the operation when EX.FINE is selected for G3 transmission. ON: 600 DPI/300 DPI/15.4, ℓ/mm are capable. OFF: 300 DPI/15.4, ℓ/mm are capable.
31	ISDN Dial Mode	Determine whether G4 communication is to be performed by calling a signal remote machine by pressing ten-keys when an G4 option is mounted. G3 MODE(G3 communication)/G4(G4 communication) • This setting cannot be made when an G4 option board is not provided.
32	Speech Receive	Determine whether the incoming call is answered when the information transmission capacity instracted by the network is voice transmission. ON(Answered)/OFF(Not answered) • This setting cannot be made when G4 option board is not provided.
33	OPTION I/F MODE	Select the function for when a 1284 option is installed. MFPI: “MFPI” Mode. I/F applied with a traditional MFPI protocol. SCN.: “Flatbed Scanner” Mode. Flatbed Scanner connection and Download Print connected directly to a PC. NET.: “Download Print (through Network Server)” Mode. Download Print via a Network Server. * Capable of setting only when installed with a 1284 option. * Flatbed related functions are disabled when MFPI is selected. * The difference between SCN. and NET. is only for handling data that is determined as text code (discarded when SCAN. is selected but prints corresponding characters when NET. is selected), however, Flatbed Scanner will operate in either settings. * After changing the setting of this function, you must reboot a machine.

Table 2.8 (6/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
34	Paper Size Check	Sets to check or not the recording paper size specified by the command that set by the terminal for PC printing in Download Print Mode. ON(Checked)/OFF(Not checked) • The operation of the machine when paper size differs is as follows: ON: Paper request appers just before printing and recording paper size jam is verified after activation of printing. OFF: Paper request does not appers just before printing and recording paper size jam is verified after activation of printing. ***Note:*** Setting is disabled when OPTION I/F MODE is MFPI.
35	Print Job T.O.	Sets to interrupt printing when job-end command cannot be detected within the set time to store the data received from Centro I/F in print buffer for PC printing in Download Print Mode. Also this setting applies to the reception from a Flatbed Scanner, where both for Copy/FAX TX, the setting takes on the value of time to any interruption of receive data at some midpoint in a page. 5SEC/30SEC/5MIN ***Note:*** Setting is disabled when OPTION I/F MODE is MFPI.
36	FLATBED TX MODE	Set the default resolution upon FAX TX when connected with a Flatbed Scanner. STD (8 × 7.7 transmission). /FINE (300 × 300DPI transmission) * Capable of setting only when a 1284 option is installed. * Setting is disabled when OPTION I/F MODE = ”MFPI”.
37	FLATBED TX T.O.	Set the T.O time for data reception standby upon FAX TX when connected with a Flatbed Scanner. OFF/30 SEC/1 MIN * Capable of setting only when a 1284 option is installed. * Setting is disabled when OPTION I/F MODE = ”MFPI”.
38	HALF SIZE SCAN.	Set whether to discard the bottom half of the read data received by the Flatbed Scanner. ON: Discard / OFF: Does not discard. * Capable of setting only when a 1284 option is installed. * Setting is disabled when OPTION I/F MODE = ”MFPI”.

No.	User Setting Items	Setting Selection	1 ODA	2 LTA	3 E-INT	4 E-GER	5 E-FRE	6 0-AUS	7 0-NZL	8 0-SIN	9 0-HNG	10 L-AG	10 IRL	11 DEN	13 SWE	14 NOR	15 SUI	16 AUT	17 HOL	18 ITA	19 ESP	20 CHN	21 Factory	Note
1	MCF (single-loc.)	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
2	MCF (multi-loc.)	ON/OFF	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	OFF	ON	OFF	
3	ERR.REPORT (MCF.)	ON/OFF	ON	ON	OFF	ON	OFF	ON	ON	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF	ON	ON	OFF	
4	IMAGE IN MCF.	OFF/PART/WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	
5	SENDER ID	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
6	MONITOR VOLUME	OFF/LOW/MID./H-MID/HIGH	MID.	MID.	MID.	MID.	MID.	OFF	MID.	MID.	MID.	MID.	MID.	MID.	MID.	LOW	MID.	MID.	MID.	HIGH	HIGH	MID.	HIGH	
7	BUZZER VOLUME	LOW/MID/HIGH	MID	MID	MID	MID	MID	MID	MID	MID	MID	MID	MID	LOW	MID	LOW	MID	MID	MID	HIGH	HIGH	MID	HIGH	
8	CLOSED NETWORK	OFF/ T/R / RX	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
9	TX MODE DEFAULT	STD/FINE/EX-FINE/PHOTO-NORMAL/DARK/LIGHT	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	
10	T/F TIMER PRG.	20 sec/35 sec	35	35	20	35	20	35	35	35	35	35	20	20	20	35	35	35	20	35	20	35	35	
11	RING RESPONSE	1 ring/5 sec/10 sec/15 sec/20 sec	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1ring	1 ring	1 ring	1ring	5sec	1ring	1ring	1ring	1ring	1 ring	1ring	
12	DISTINCTIVE RING	OFF/ON/SET	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
13	PAPER SIZE	1st Tray=A4/LET./LGL13/LGL14	LET	LET	A4	A4	A4	A4	A4	A4	A4	A4	LET	A4	A4	A4	A4	A4	A4	A4	A4	A4	LET	
14	USER LANGUAGE	LNG1/LNG2/LNG3/LNG4/LNG5	LNG1	LNG1	LNG1	LNG2	LNG2	LNG1	LNG1	LNG1	LNG1	LNG1	LNG1	LNG2	LNG2	LNG2	LNG2	LNG2	LNG2	LNG2	LNG2	LNG1	LNG1	
15	INCOMING RING	OFF/ON/DRC	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF	ON	ON	
16	REMOTE RECEIVE	OFF/00/11/22/...../88/99/**/###	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	**	11	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
17	MEM./FEED SWITCH	MEMORY/FEEDER	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	
18	POWER SAVE MODE	ON/OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	OFF	ON	OFF	
19	ECM FUNCTION	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
20	REMOTE DIAGNOSIS	ON/OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	
21	PC/FAX SWITCH	ON/OFF	OFF	ON	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	
22	NO TONER MEM. RX	ON/OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	
23	MEM. FULL SAVE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
24	CONTINIOUS TONE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
25	INSTANT DIALING	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
26	RESTRICT ACCESS	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
27	WIDTH REDUCTION	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
28	TONER SAVE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
29	CNG COUNT	1-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
30	600 DPI FAX TX	ON/OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
31	ISDN DIAL MODE	G4 MODE/G3 MODE	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	
32	SPEECH RECEIVE	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
33	OPTION I/F MODE	MFPI/SCN./NET.	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	
34	PAPER SIZE CHECK	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
35	PRINT JOB T.O.	5 sec/30 sec/5 min	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	
36	FLATBED TX MODE	STD/FINE	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	
37	FLATBED TX T.O.	OFF/30 sec/1 min	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	
38	HALF SIZE SCAN	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

Table 2.9 (1/2) User Default Setting

Table 2.9 (2/2) User Default Setting

No.		User Setting Items	Setting Selection	1 ODA	2 LTA	3 E-INT	4 E-GER	5 E-FRE	6 0-AUS	7 0-NZL	8 0-SIN	9 0-HNG	10 L-AG	10 IRL	11 DEN	13 SWE	14 NOR	15 SUI	16 AUT	17 HOL	18 ITA	19 ESP	20 CHN	21 Factory	Note
		I-FAX NIC OPTIONS																							
1		I-FAX NIC SETTINGS																							
	1	TEXT PRINT	ON/OFF	ON	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	2	HEADER PRINT	OFF/TYPE1/TYPE2	TYPE1	TYPE1	OFF	OFF	OFF	TYPE1	TYPE1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	3	CODING MODE	MH/MR/MMR	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	
	4	EX. FINE MIDE	300DPI/600DPI	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
	5	SENDER ID (EMAIL)	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
	6	SEND FILE FORMAT	TIFF/PDF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	
	7	SEND NOTIFICATION	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
	8	I-FAX NIC UPDATE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
2	1	POP INTERVAL	OFF/1MIN/5MIN/10MIN/ 30MIN/60MIN/DAILY	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	
3		NETWORK SETTINGS		There is setting data in the NIC side.																					
	1	IP ADDRESS																							
	2	SUBNET MASK																							
	3	DEFAULT GATEWAY																							
	4	SMTP SRV																							
	5	POP SRV																							
	6	POP ID																							
	7	POP PASS.																							
	8	DNS P. SRV ADDR.																							
	9	DNS S. SRV ADDR.																							
	10	FAX EMAIL																							
4		(NETWORK INITIALIZE)																							

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2.2.1.5 User's Functions Example

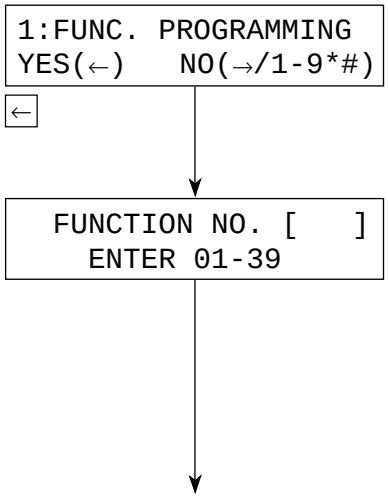
Note: The fonts displayed on the LCD operation panel may differ from fonts written this manual.

1) Function Program

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode.
  (In case of no message in memory)
- Press [←] key.
- Enter two-digit function number, then the display will show the set item corresponding to the number entered.
  If you want to set up all or several items starting with 01, then enter 01.

The display shows:



To an individual setting item.
(See Table 2.10)

Table 2.10 (1/4) User's Functions

Tap No.	Name of Function	The Display Shows
0 1	Message confirmation report (Single location)	01:MCF(SINGLE-LOC.) [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
0 2	Message confirmation report (Multiple locations)	02:MCF (MULTI-LOC.) [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
0 3	Error report	03:ERR. REPORT(MCF.) [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
0 4	Image in MCF.	04:IMAGE IN MCF. [X] YES(←) NO(→) → Setting (Toggle) OFF → PART → WHOLE
0 5	Sender ID	05:SENDER ID [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
0 6	Monitor volume	06:MONITOR VOLUME [X] YES(←) NO(→) → Setting X: OFF → LOW → MID. HIGH ← H-MID.
0 7	Buzzer volume	07:BUZZER VOLUME [X] YES(←) NO(→) → Setting (Toggle) X: MID → HIGH → LOW
0 8	Closed network	08:CLOSED NETWORK [X] YES(←) NO(→) → Setting X: T/R → RX → OFF
0 9	TX mode default	09:TX MODE DEFAULT YES(←) NO(→) → Setting RESOLUTION & ORIGINAL Note 1:
1 0	Telephone/fax automatic switchover timer	10:T/F TIMER PRG. [X] YES(←) NO(→) → Setting (Toggle) X: 20SEC ⇆ 35SEC
1 1	Ring response time	11:RING RESPONSE [X] YES(←) NO(→) → Setting X: 1RING → 05SEC → 10SEC → 15SEC → 20SEC Note 2:
1 2	Distinctive ring	12:DISTINCTIVE RING [X] YES(←) NO(→) → Setting (Toggle) X:OFF → ON → SET Note 2:

Table 2.10 (2/4) User's Functions

Tap No.	Name of Function	The Display Shows
1 3	Paper size	13:PAPER SIZE [X] YES(←) NO(→) → Setting X: A4 → LET → LGL 13 → LGL 14
1 4	User language	14:USER LANGUAGE [X] YES(←) NO(→) → Setting Note 5 X: ENG. → (Other) → (Other) → •••
1 5	Incoming ring	15:INCOMING RING [X] YES(←) NO(→) → Setting (Toggle) X: OFF → ON → DRC
1 6	Remote receive	16:REMOTE RECEIVE [X] YES(←) NO(→) OFF 00 → 11 → 22 → 33 → 44 → 55 → 66 → 77 → 88 → 99 → ## ← **
1 7	Memory and feeder selection	17:MEM/FEEDER SW. [X] YES(←) NO(→) → Setting X: MEM. ⇆ FEED.
1 8	Power save mode (not available for ODA version)	18:POWER SAVE MODE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
1 9	ECM function	19:ECM FUNCTION [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 0	Remote diagnosis	20:REMOTE DIAGNOSIS [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 1	PC/FAX switch	21:PC/FAX SWITCH [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON

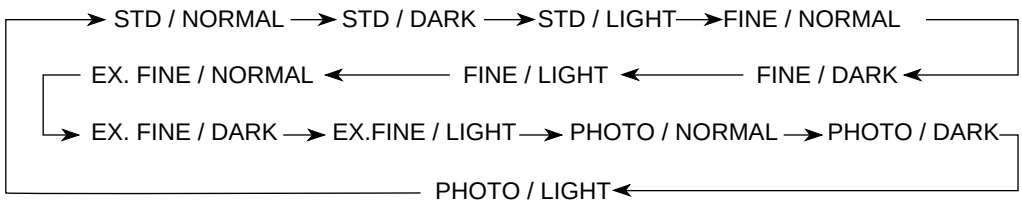
Table 2.10 (3/4) User's Functions

Tap No.	Name of Function	The Display Shows
2 2	No toner memory reception	22:NO TONER MEM. RX [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 3	Memory full save	23:MEM FULL SAVE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 4	Continuous tone	24:CONTINUOUS TONE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 5	Instant dialing	25:INSTANT DIALING [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 6	Restricted access	26:RESTRICT ACCESS [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 7	Width reduction	27:WIDTH REDUCTION [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 8	Toner save	28:TONER SAVE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 9	CNG count	29:CNG COUNT [X] YES(←) NO(→) Note 3 → Setting (Toggle) X: 1 → 2 → 3 → 4 → 5
3 0	600 DPI FAX TX	30:600 DPI FAX TX [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
3 1	ISDN DIAL MODE	31:ISDN DIAL MODE [X] YES(←) NO(→) Note 4 → Setting (Toggle) X: G3 ⇆ G4

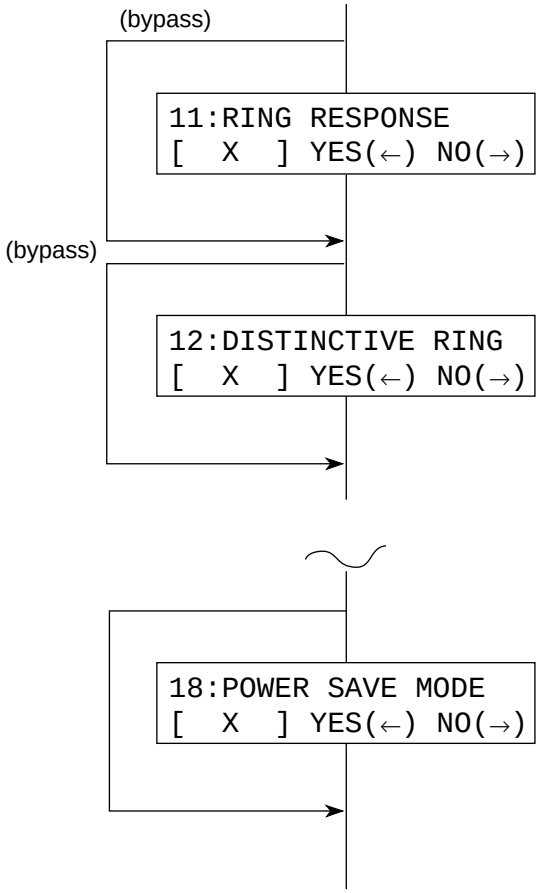
Table 2.10 (4/4) User's Functions

Tap No.	Name of Function	The Display Shows
3 2	Speech receive	32:SPEECH RECEIVE [X] YES(←) NO(→) Note 4 → Setting (Toggle) X: OFF ⇆ ON
3 3	OPTION I/F mode	33:OPTION I/F MODE [X] YES(←) NO(→) Note 6 → Setting (Toggle) X: MFPI → SCN. → NET.
3 4	Paper size check	34:PAPER SIZE CHECK [X] YES(←) NO(→) Note 7 → Setting (Toggle) X: OFF ⇆ ON
3 5	Print job time out	35:PRINT JOB T.O. [X] YES(←) NO(→) Note 7 → Setting (Toggle) X: 5 sec → 30 sec → 5 min
3 6	FLATBED TX mode	36:FLATBED TX MODE [X] YES(←) NO(→) Note 7 → Setting (Toggle) X: STD ⇆ FINE
3 7	FLATBED TX time out	37:FLATBED TX T.O. [X] YES(←) NO(→) Note 7 → Setting (Toggle) X: OFF → 30 SEC → 1 MIN
3 8	HALF SIZE SCAN	35:HALF SIZE SCAN [X] YES(←) NO(→) Note 7 → Setting (Toggle) X: ON ⇆ OFF

Note 1: RESOLUTION & ORIGINAL of Tx mode defult setting can be selected by using [→] key.



2: When the service bit is set to "off" and the corresponding bit of XPARA of national code is set to "off", Ring response and/or Distinctive ring is bypassesd as follows:



3: For G4 option, skip this step.
This step is valid when Service Bit = ON.

4: Capable of setting when a G4 option is installed.

5: Capable of selecting from up to five countries. However, this is in accordance with the number of languages that are actually installed (max. five countries).

6: Capable of setting only when a 1284 option is installed.

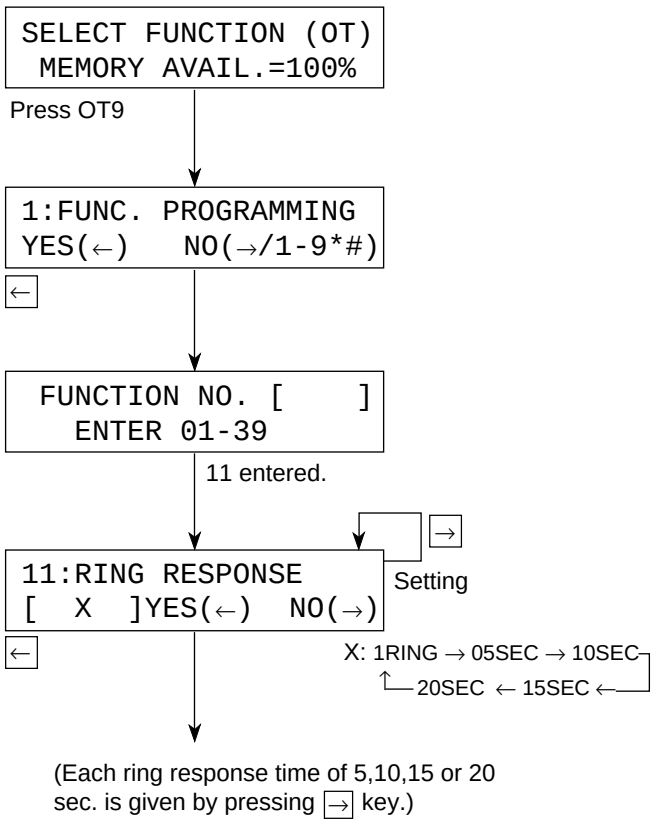
7: Capable of selecting when the Option I/F mode is SCN or NET.

2) Ring response time

Before specifying the ring response time, set the service bit on following the operations shown in 2.2 (1/8). (Service Bit Setting).

Operations: **The display shows:**

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode. (In case of no message in memory)
- Press [←] key enter using the ten-key pad.
- Enter 11 using the ten-key pad.
- Press [→] key until the setting you want is displayed, then press [←] key.



(Each ring response time of 5,10,15 or 20 sec. is given by pressing [→] key.)

3) Dial parameters (In case the service bit is "OFF".)

To get the "DIAL PARAMETER" message on the display, perform the same operetion as Table 2.11.(Dial parammeters settings)

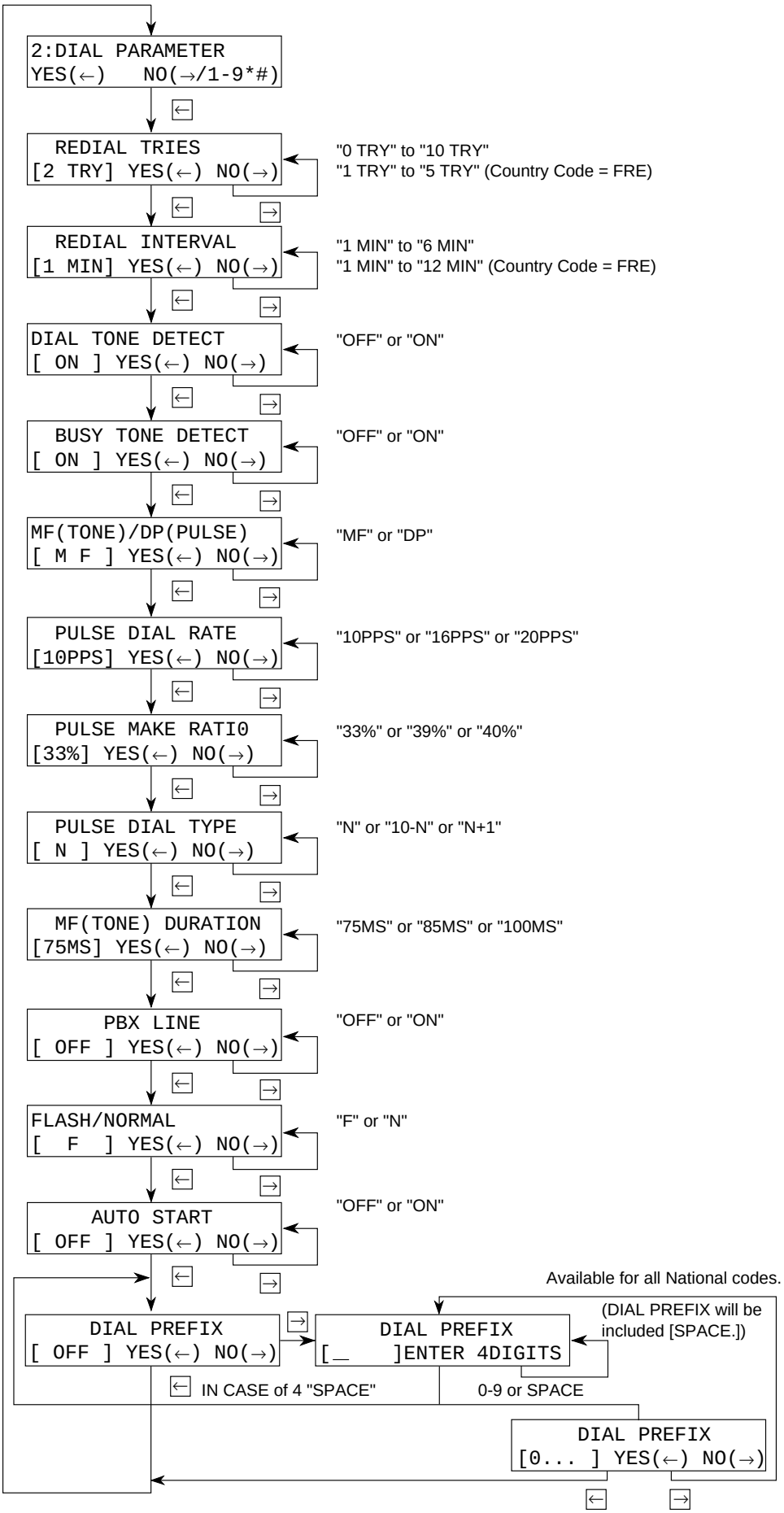


Table 2.11 Dial parameters setting

NATIONAL CODE	1 USA	2 INT	3 GBR	4 IRL	5 NOR	6 SWE	7 FIN	8 DEN	9 GER	10 HUN	11 TCH	12 POL
Redial tries	1	1	0	0	1	1	1	0	1	1	1	1
Redial interval	1	1	0	0	1	1	1	0	1	1	1	1
Dial tone detect	1	0	0	0	0	0	0	0	0	0	0	0
Busy tone detect	1	0	0	0	0	0	0	0	1	0	0	0
MF (tone)/DP (pulse)	1	1	0	1	0	0	1	1	1	1	1	1
Pulse dial rate	0	0	0	0	0	0	0	0	0	0	0	0
Pulse make ratio	0	0	0	0	0	0	0	0	0	0	0	0
Pulse dial type	0	0	0	0	0	0	0	0	0	0	0	0
MF (tone) duration	0	0	0	0	0	0	0	0	0	0	0	0
PBX line	1	1	1	1	1	1	1	1	1	1	1	1
Flash/Normal	0	0	0	0	0	0	0	0	0	0	0	0
Auto start	1	1	1	1	1	1	1	1	1	1	1	1
Dial prefix	1	1	1	1	1	1	1	1	1	1	1	1

NATIONAL CODE	13 SUI	14 AUT	15 BEL	16 HOL	17 FRE	18 POR	19 ESP	20 ITA	21 GRE	22 AUS	23 NZL	24 SIN	25 HNG	26 LTA	27 MEX	28 CHN	29 RUS	30 TWN
Redial tries	1	1	0	1	0	0	0	1	0	0	0	0	0	1	1	1	1	1
Redial interval	1	1	1	1	0	0	0	1	0	0	0	0	0	1	1	1	1	0
Dial tone detect	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1
Busy tone detect	1	1	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	1
MF (tone)/DP (pulse)	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1
Pulse dial rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulse make ratio	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulse dial type	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MF (tone) duration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBX line	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1
Flash/Normal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto start	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dial prefix	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

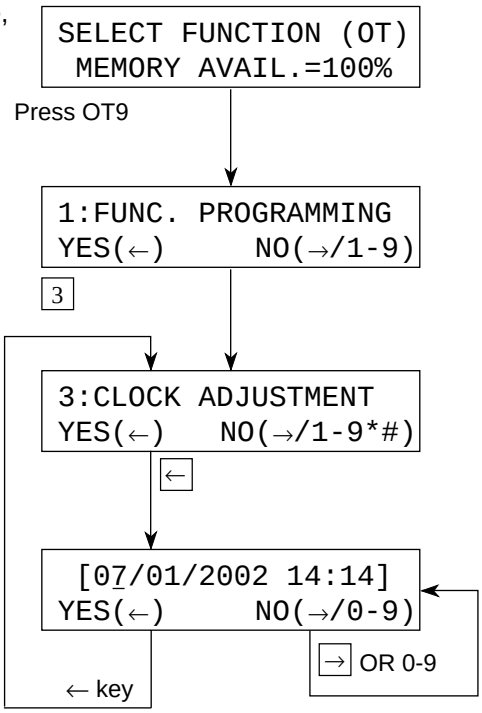
1: Capable of user operation.
0: User operation disabled.
(Capable of operating by having a service person setting service bit to ON.)

2.2.1.6 Clock Adjustment

Operations:

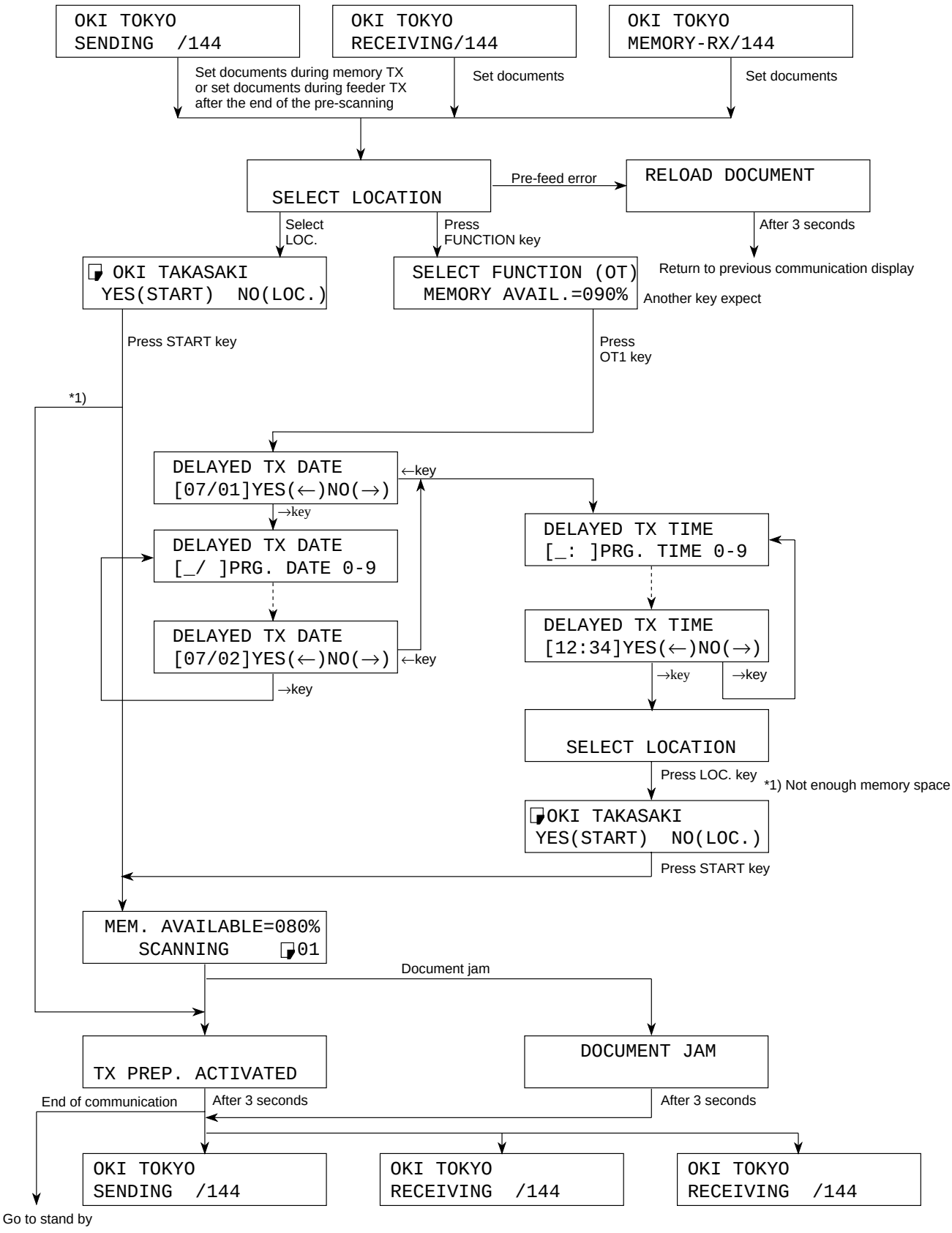
- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode. (In case of no message in memory)
- Enter 3 using the ten-key pad.
- Press ← key.
- Enter date and time by using the ten-key pad (0 to 9, *, # keys).

The display shows:



Note: Data outside 1996 to 2095 cannot be registered.

2.2.1.7 Dual Access Operation



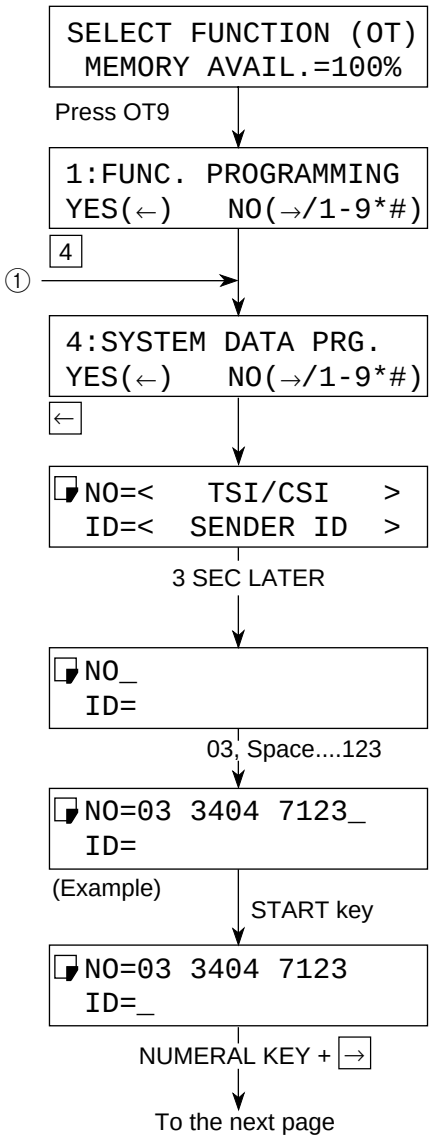
2.2.1.8 System Data Programming

- TSI/CSI (Defalut: Blank)
- Registration of sender ID (Defalut: Blank)
- Registration of telephone number for the call-back message (Defalut: Blank)

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode.
  (In case of no message in memory)
- Enter 4 using the ten-key pad.
- Press [←] key.

The display shows:



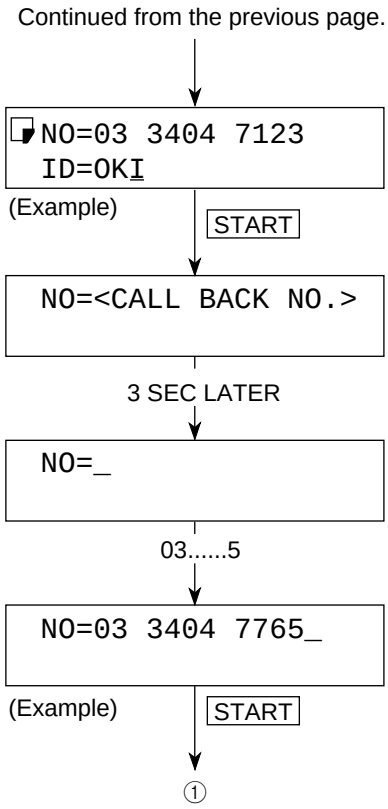
Note 1: Use the UNIQUE key to input special symbols.
2: When 16 digits or more is registered, the high-order 16 digits are displayed (TSI, CSI, ID or CBM)

Operations:

- Press START key.

- Press START key.

The display shows:



2.2.1.9 Dial Parameters Settings

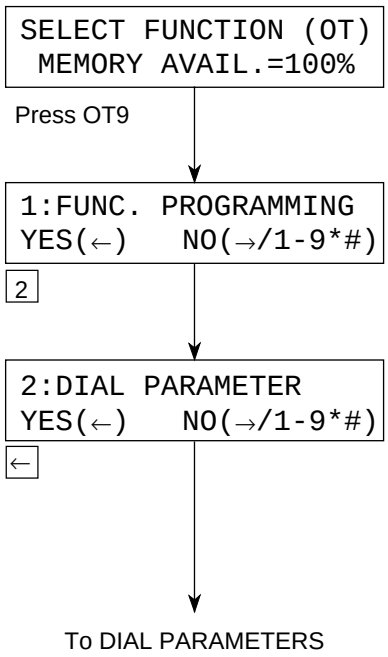
(1) Procedure

The following shows the case in which the service bit is on.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode. (In case of no message in memory)
- Enter 2 using the ten-key pad.
- Press [←] key.

The display shows:



*1 Not all of the following dial parameters are released to the users (depending on National codes and if the Service bit is OFF)

The display shows:

Continued from the previous page.

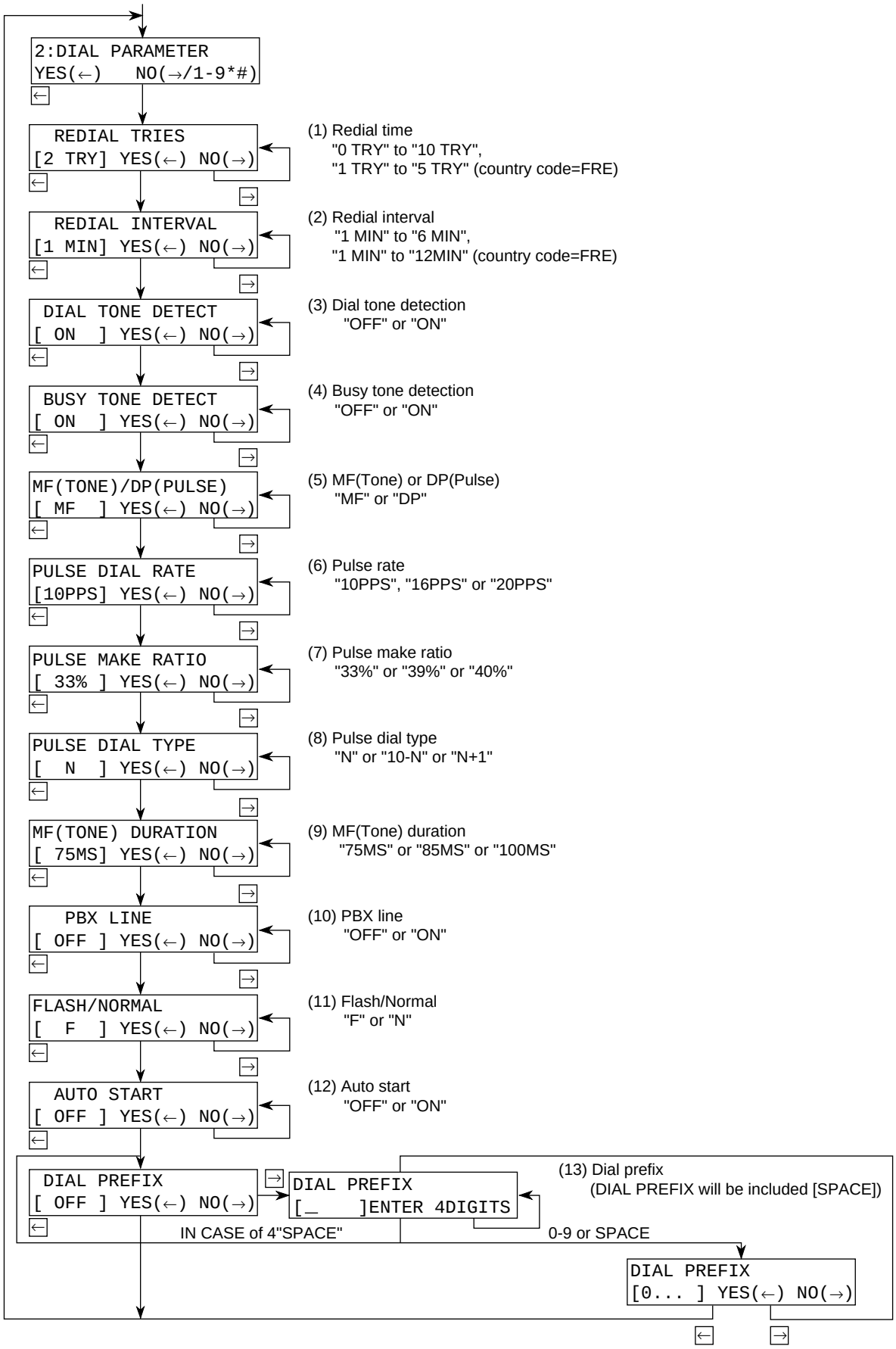


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Table 2.12 Default Settings of Dial Parameters

No.	User Setting Items	Setting Selection	COUNTRY CODE																														
			1 USA	2 INT'L	3 GBR	4 IRL	5 NOR	6 SWE	7 FIN	8 DEN	9 GER	10 HUN	11 TCH	12 POL	13 SUI	14 AUT	15 BEL	16 HOL	17 FRE	18 POR	19 ESP	20 ITA	21 GRE	22 AUS	23 NZL	24 SIN	25 HNG	26 LTA	27 MEX	28 CHN	29 RUS	30 TWN
1	REDIAL TRIES	0 - 10 TRIES	1	3	2	2	5	10	3	5	10	10	2	2	10	10	3	2	2	2	2	2	2	3	2	5	2	3	3	3	3	2
2	REDIAL INTERVAL	1 - 6 min	3	3	3	3	2	3	3	3	1	1	3	3	1	1	3	3	6	3	3	3	3	3	3	3	3	3	3	3	3	3
3	DIAL TONE DETECT	ON/OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	OFF	OFF	OFF	ON	OFF
4	BUSY TONE DETECT	ON/OFF	ON	ON	ON	OFF	ON	ON	ON	ON	ON	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
5	MF (TONE)/DP (PULSE)	DP/MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	DP	MF	DP	MF	MF	MF	MF	MF	DP	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
6	PULSE DIAL RATE	10 PPS/16 PPS/ 20 PPS	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
7	PULSE MAKE RATIO	33%/39%/40%	39%	33%	33%	33%	33%	39%	39%	39%	40%	33%	39%	33%	40%	40%	33%	39%	33%	33%	33%	39%	39%	33%	33%	33%	33%	39%	39%	33%	33%	33%
8	PULSE DIAL TYPE	N/10-N/N+1	N	N	N	N	N	N+1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9	MF (TONE) DURATION	75 ms/85 ms/100 ms	100	85	85	85	75	85	85	100	85	100	100	100	85	85	85	100	75	85	85	85	100	85	85	85	85	100	100	85	85	100
10	PBX LINE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
11	FLASH/NORMAL	NORMAL/FLASH	N	N	N	N	N	N	N	N	FLASH	N	N	N	FLASH	FLASH	N	N	FLASH	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12	AUTO START	ON/OFF	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON	ON	OFF	ON	ON	ON	ON	ON	ON	ON	OFF	ON
13	DIAL PREFIX	OFF/(max. 4 digits)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	0...	OFF	OFF	OFF	0...	0...	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Table 2.13 Dial Parameters Settings

No.	Item	Specifications
	Dial parameters	
01	Redial tries	Switches on the re-dial times to meet the regulations of the installed country. 0 to 10 tries (in one-try steps) 1 to 5 tries for FRE.
02	Redial interval	Switches on the re-dial intervals to meet the regulations of installed country. 1 to 6 minutes (in one-minute steps) 1 to 12 minutes for FRE.
03	Dial tone detect	Selects the dial tone detection. ON/OFF selectable. ON: Enable OFF: Disable
04	Busy tone detect	Selects the busy tone detection. ON/OFF selectable. ON: Enable OFF: Disable
05	MF (TONE) or DP (Pulse)	Selects dialling by multi-frequency or dial pulse.
06	Pulse dial rate	Selects the dialling pulse rates for the line. 10 pps/16 pps/20 pps selectable.
07	Pulse make ratio	Selects pulse dial rate. 33%/39%/40%
08	Pulse dial type	Selects pulse dial type. Normal(N)/10-N/N+1
09	MF (Tone) duration	Selects MF (Tone) duration. 75/85/100 ms selectable.
10	PBX line	Selects PBX line. ON/OFF selectable. ON: PBX line OFF: PSTN
11	Flash/Normal	Selects the PBX type to meet the exchange requirements. NORMAL/FLASH selectable. (PBX line origination types)
12	Auto start	Enables or disables the function of dialing without pressing the START key in one-touch dial and 3-digit auto dial modes. ON: Enable OFF: Disable
13	DIAL PREFIX	Prefix dialing digits with which PBX connects the fax to the public line. OFF/max. 4digit(s) selectable. Digit: Enable OFF: Disable

2.2.1.10 Off-line Tests

(1) Purpose

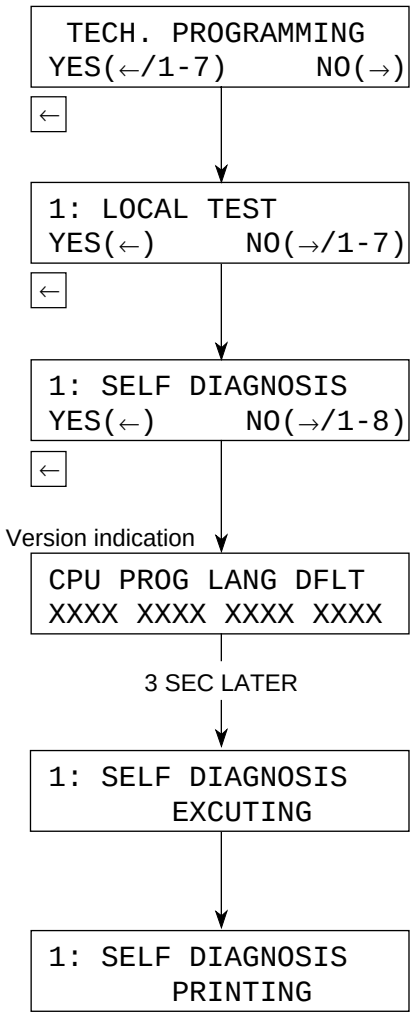
Activate self-diagnosis which includes:
- Print test
- CPU-ROM version printing
- CPU-RAM check
- PROG version printing
- LANGUAGE version printing
- DEFAULT version printing
- RAM check
- RAM check (memory board: optional)
- Data of each option board.

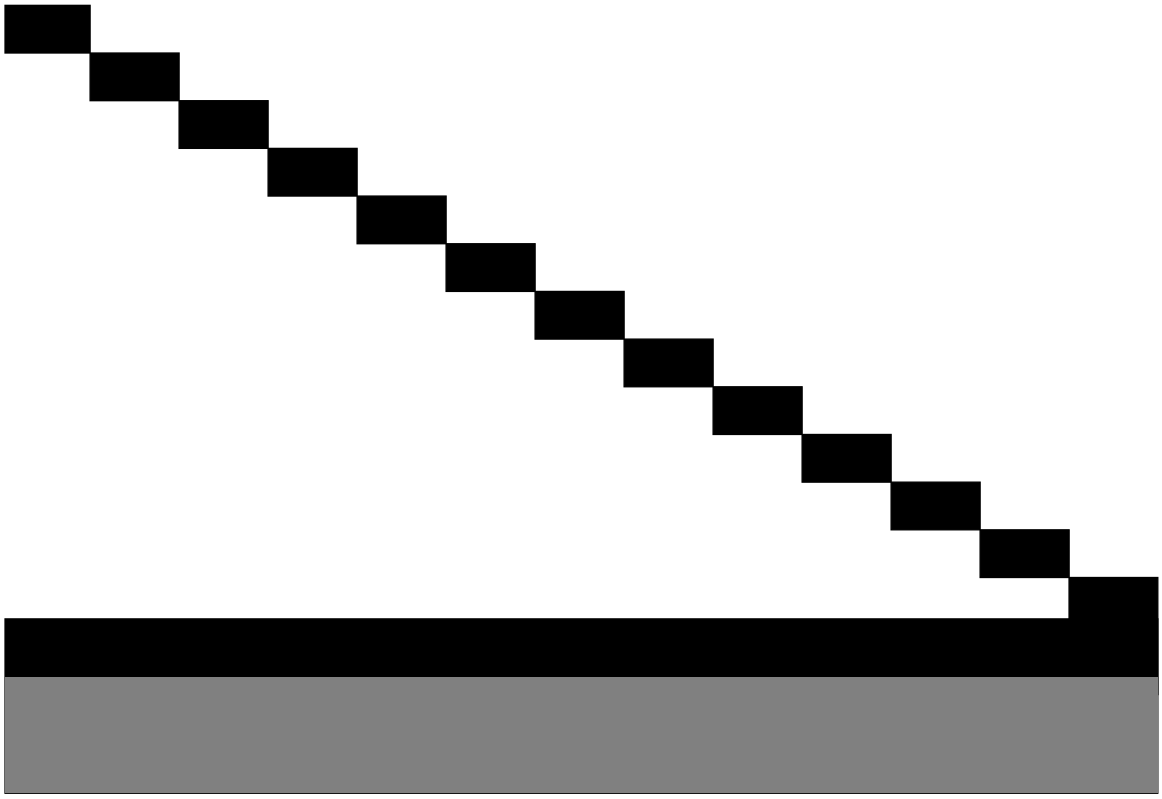
(2) Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and COPY key twice in the standby mode. (In case of no message in memory)
- Press [←] key.
- Press [←] key.
- Press [←] key for cheking and test printing. (An example of printed data is shown in Figure 2.7)

The display shows:





```
CPU-ROM   VERSION   aaaa
          HASH      OK    hhhh
CPU-RAM             OK
PROGRAM   VERSION   aaaa
          HASH      OK    hhhh
LANGUAGE  VERSION   aaaa
          HASH      OK    hhhh
DEFAULT   VERSION   aaaa
          HASH      OK    hhhh
RAM1                OK
RAM2                OK
DEFAULT TYPE        01    03/03/2002  12:00
MODEM     VERSION   hhhh
1284 BOARD
DEVICE ID           MFG:OKI DATA CORP;
                    MDL:FX-046VP;
                    DES:OKI FX-046VP;
OPT-RAM   4M        OK
ISDN BOARD          OK
CPU-ROM   VERSION   aaaa
          HASH      OK    hhhh
CPU-RAM             OK
PROGRAM   VERSION   aaaa
          HASH      OK    hhhh
RAM       2M        OK
DPRAM     2K        OK
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

Figure 2.7 Printed Data of Self-diagnosis Print Test (Example)

2.2.1.11 On-line Tests

1. Transmission

(1) Load documents

(2) Make sure that

- The loaded documents are fed in automatically.
- The STD and NORMAL lamps light.
- The display shows SELECT LOCATION.

(3) Dial the telephone number of the remote machine by the ten-key pad.

(4) Make sure that the telephone number of the remote machine is shown on the display.

(5) Press the START button.

(6) Typical message transmission flow is described in Figure 2.8.

2. Reception

(1) Use another machine for dialling.

(2) Make sure that

- The display shows AUTO REC. START.
- The message is automatically received.

(3) Typical message reception flow is described in Figure 2.9.

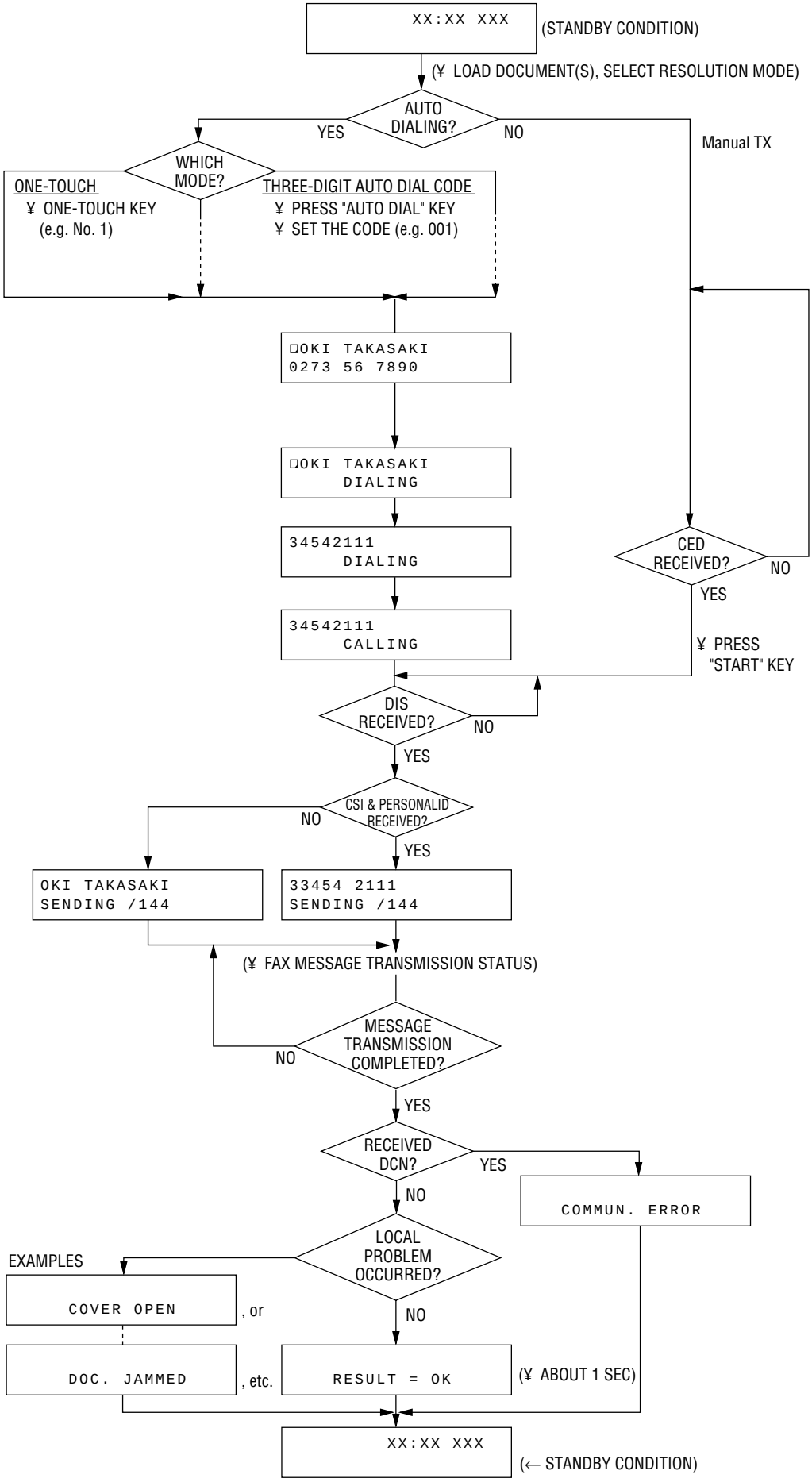


Figure 2.8 Typical Transmission Flow

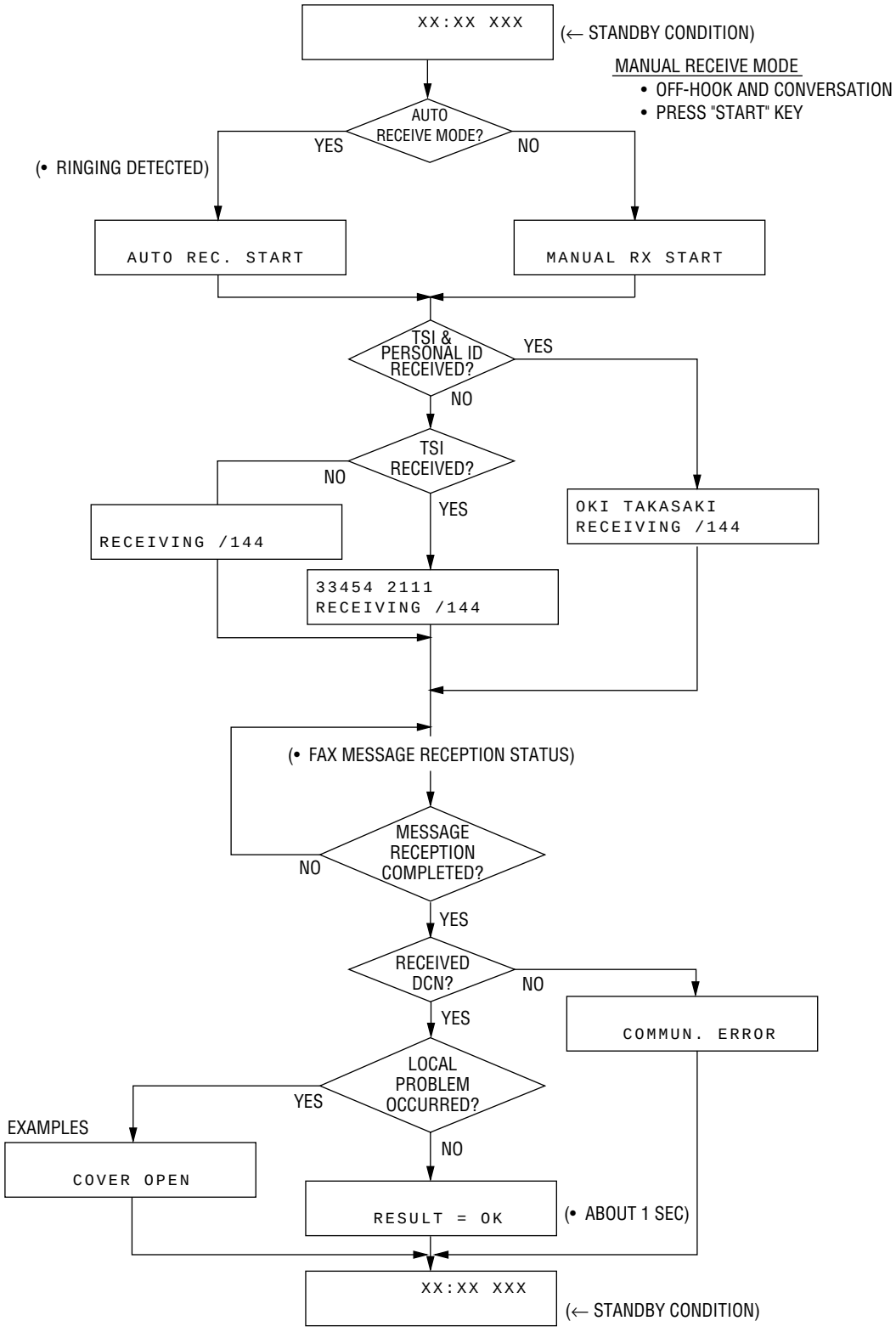


Figure 2.9 Typical Reception Flow

3. BRIEF TECHNICAL DESCRIPTION

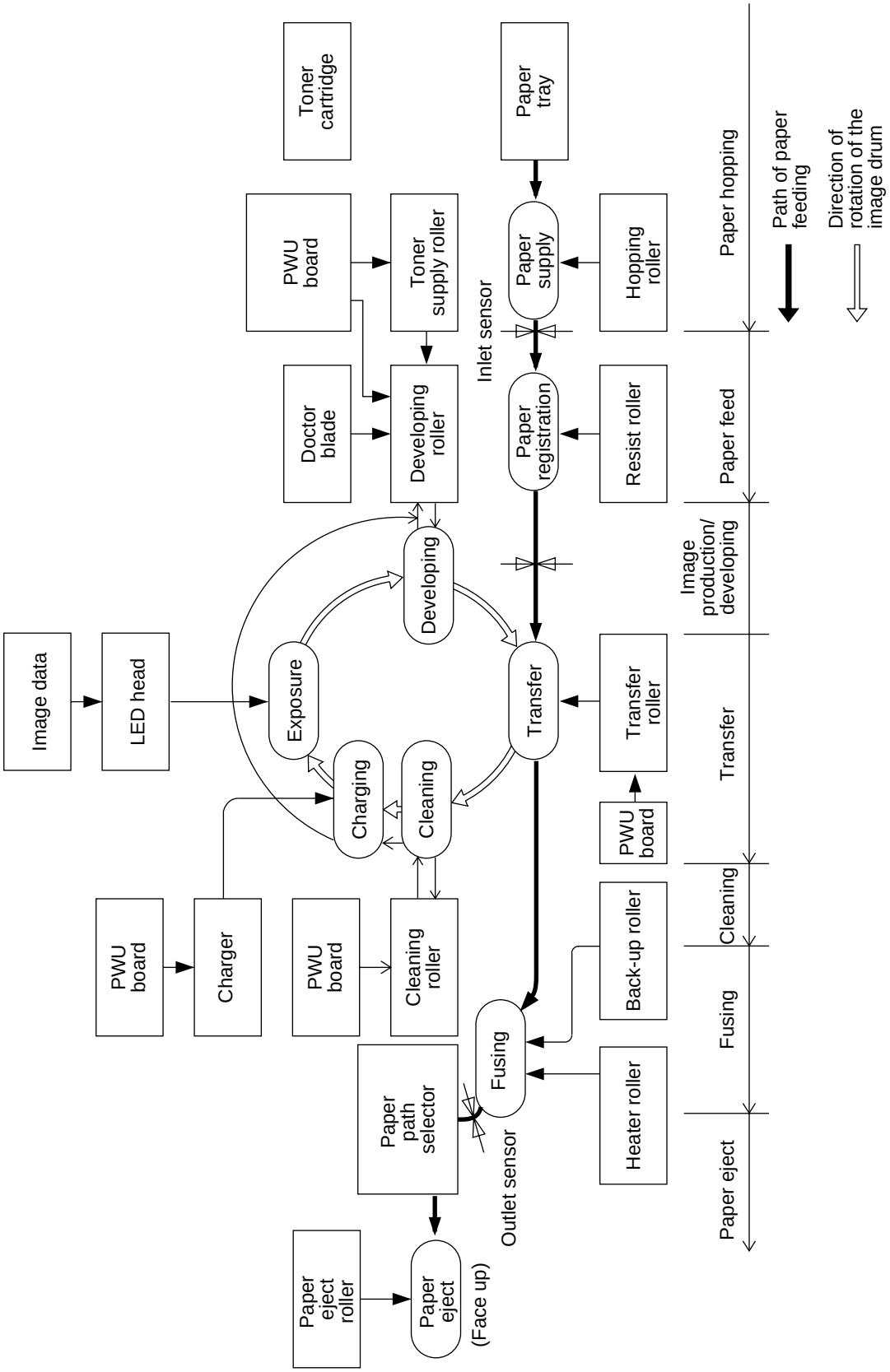
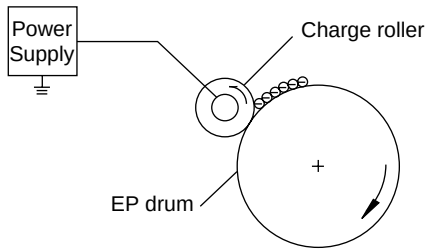
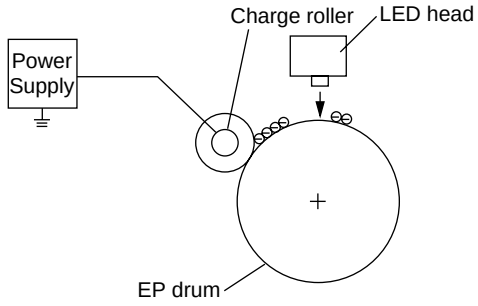
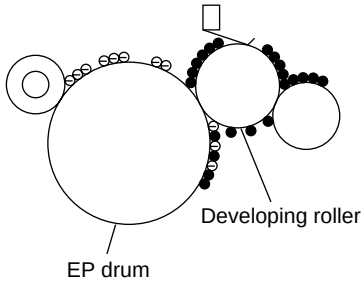


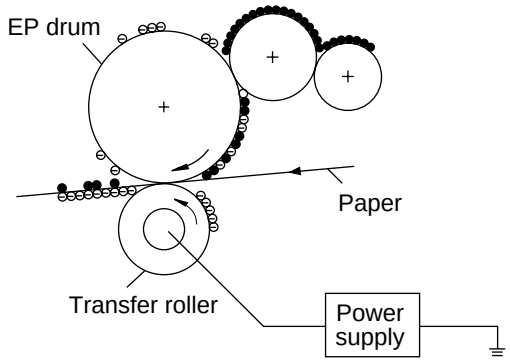
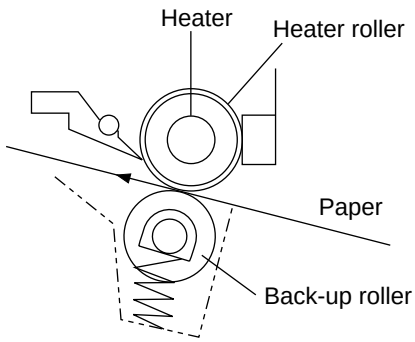
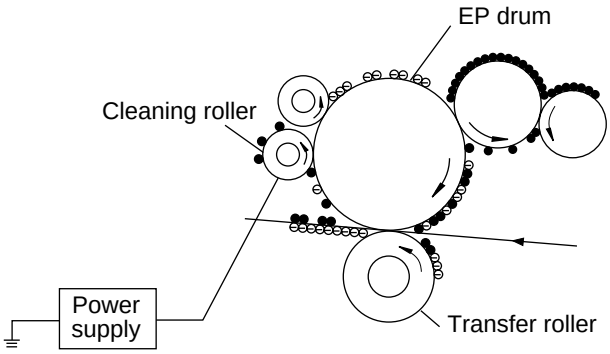
Figure 3.1 Electro-photographic Process Flow

3.1 Fundamentals of the Electro-Photographic Process

The electro-photographic process involves six sub-processes:
(1) Charging (2) Exposure (3) Development (4) Transfer (5) Fusing (6) Cleaning

Outline of each process is explained below.

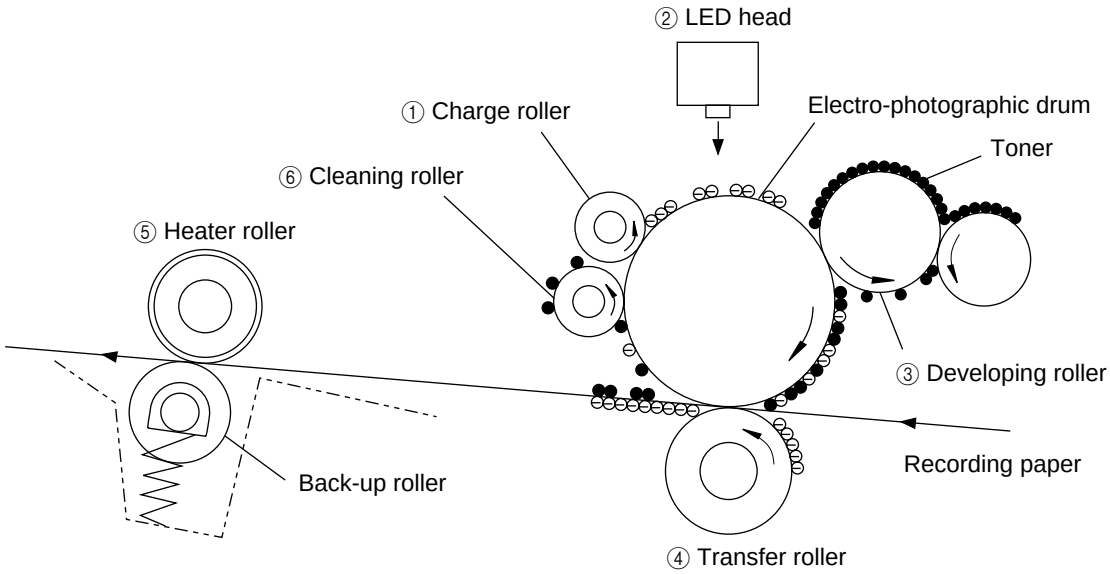
Process	Illustration	Description
1 Charging		The surface of the electro-photographic Image drum is uniformly charged with negative charges by applying a negative voltage to the charge roller. When the applied DC voltage exceeds a threshold value, charging of the drum begins.
2 Exposure		Light emitted from the LED head irradiates the negatively charged surface. The potential of the irradiated part of the Image drum surface is raised, so that an electrostatic latent image associated with the print image is formed.
3 Development		Toner is attracted to the exposed part (high-potential part) of the Image drum at the contact between the Image drum and the developing roller, making the electrostatic latent image visible. At the same time, the residual toner on the Image drum is attracted to the developing roller by static electricity.

Process	Illustration	Description
4 Transfer		The recording paper is placed over the Image drum surface and a positive charge, opposite in polarity to the toner, is applied to the reverse side of the paper from the transfer roller. The toner is attracted by the positive charge and is transferred to the paper. The toner charged negative that is attracted to the Image drum surface is transferred to the upper side of the recording paper by the positive charge on the lower side of the paper.
5 Fusing		The unfused toner image is fused on the paper under heat and pressure as it passes between the heater roller and the back-up roller.
6 Cleaning		Residual toner on the Image drum is attracted to the cleaning roller temporarily by static electricity on the Image drum surface.

3.2 Actual Electo-photographic Process

The electro-photographic process consists of six essential processes.

The following Figure 3.2 provides a general description.



* Process:

① : Charging
② : Exposure
③ : Developing
④ : Transfer
⑤ : Fusing
⑥ : Cleaning

Figure 3.2 Actual EP Process

3.3 Boards and Units

3.3.1 Boards and Units

The following one board, Main control board and three units constitute the facsimile transceiver machine.

• Main control board	MCNT:	(V46)
• Network control unit board	NCU:	(INU/EN9/EN2)
• Operation panel assembly unit	OPE:	(O4W)
• Power supply unit	POW UNIT:	(MPW1446; 230V/MPW1546; 120V, P2H, P6L)
• G4 option board	G4N	
• Printer unit		

Figure 3.3 shows the related drawing of the facsimile transceiver.

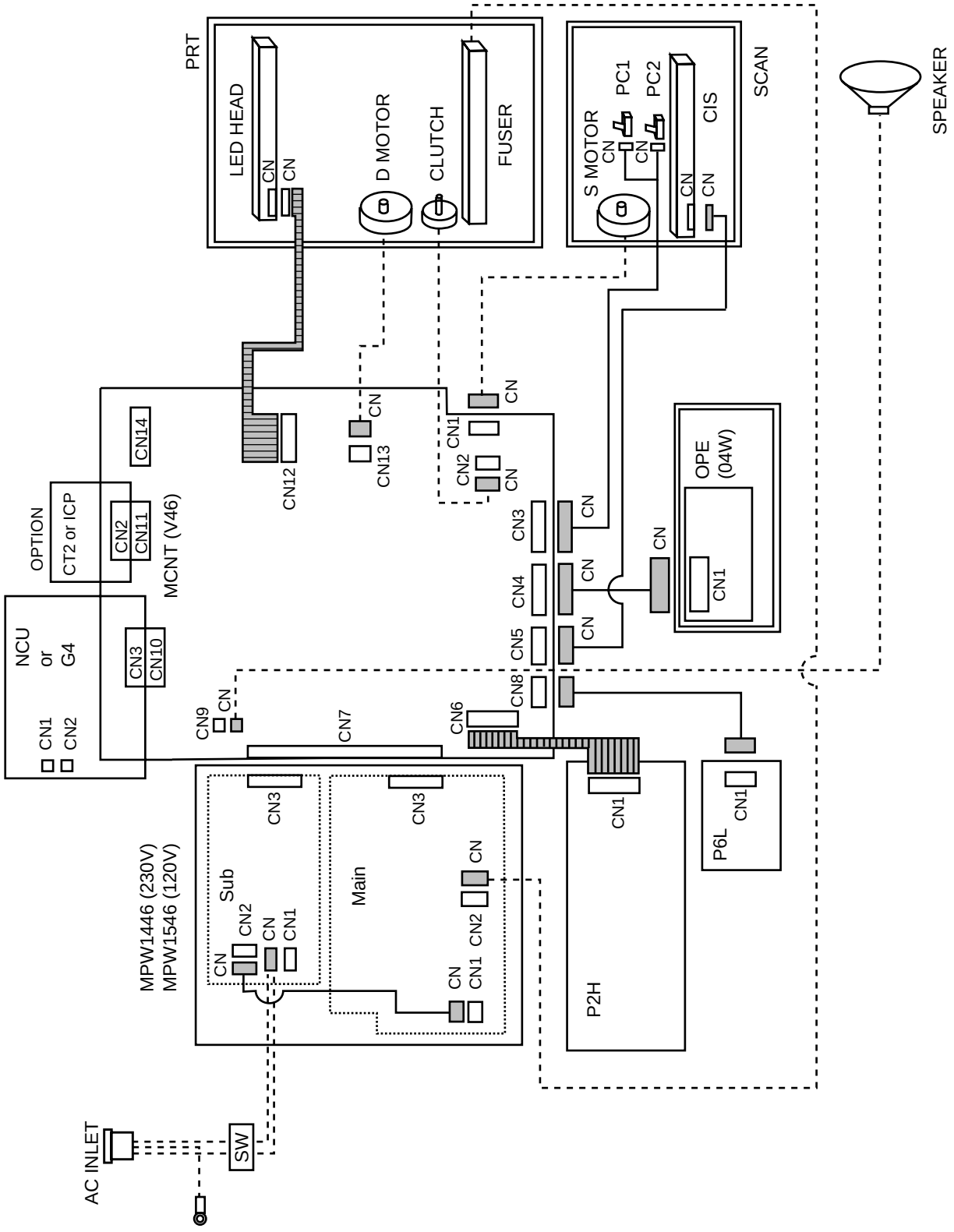


Figure 3.3 Related Drawing

3.4 Overall Dimension and Mechanical Structure of FX-046VP

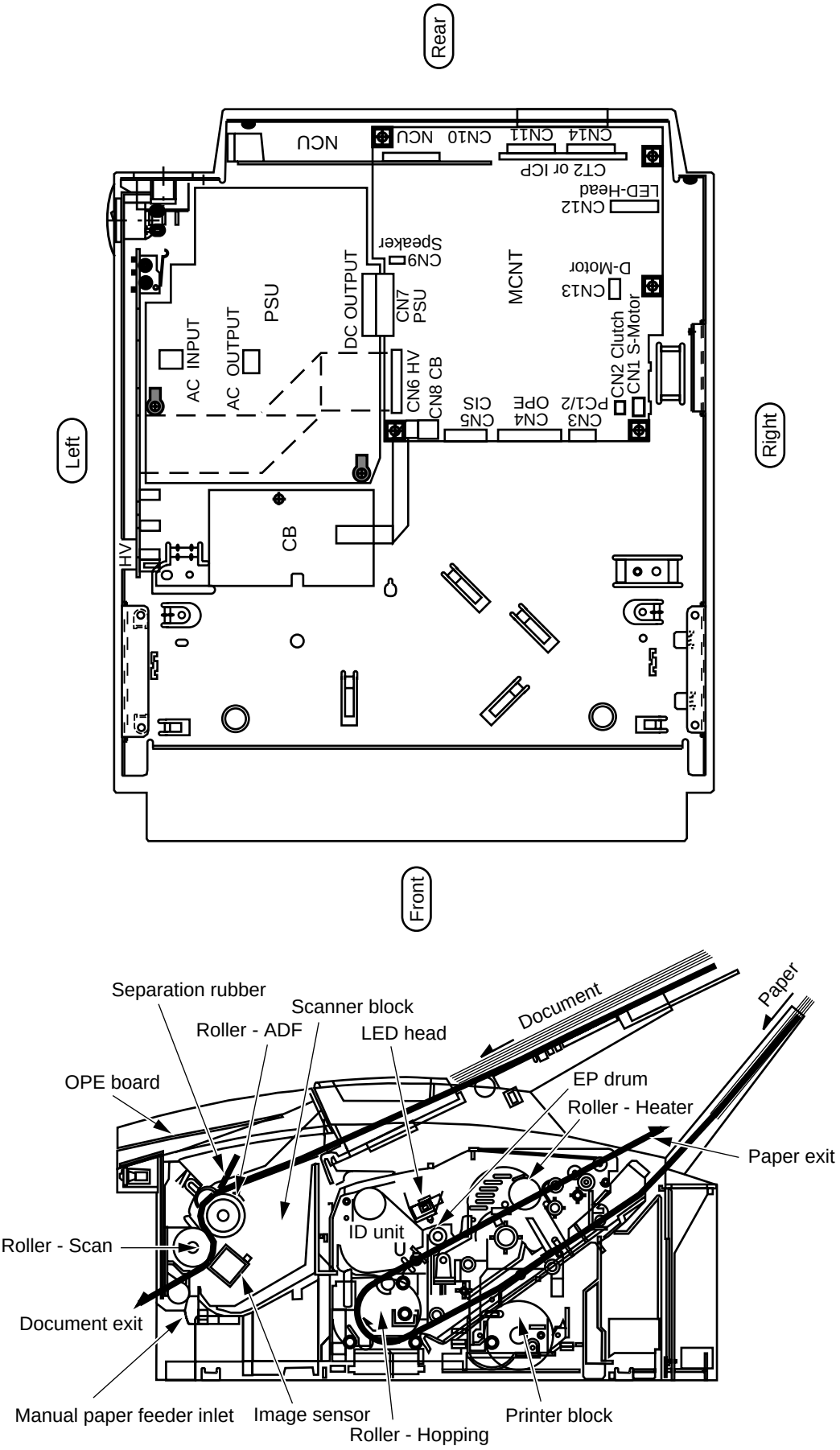


Figure 3.4 Overall Dimension and Mechanical Structure

4. MECHANICAL DISASSEMBLY AND REASSEMBLY

General

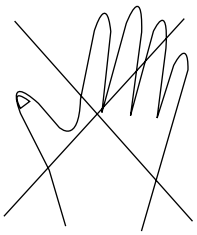
The section explains the procedures for replacement of parts, assemblies, and units in the field. Only the disassembly procedures are explained here. For reassembly, reverse the disassembly procedure.

4.1 Precautions for Parts Replacement

DANGER

Do Not
Touch !

HIGH VOLTAGE



You may be subjected to high-voltage electric shock by touching the following parts without an insulating material:

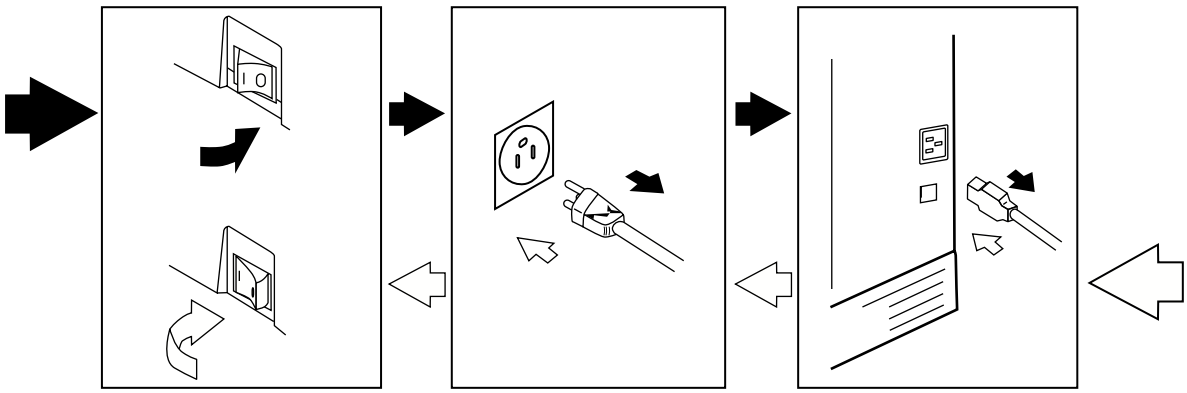
a. High-voltage unit PC board
b. Low-voltage PC board
c. Contact ass'y
d. Power supply unit

* The high voltage risk may continue for about 3 days after power-off.
* Never touch the power supply unit pattern.

(1) Before starting to replace parts, remove the AC cord.

(a) Remove the AC cord in the following sequence:
1. Turn off ("o") the power switch of the machine.
2. Disconnect the AC inlet plug of the AC cord from the AC receptacle.
3. Disconnect the line cable from the machine.

(b) Reconnect the machine in the following procedure:
1. Connect the AC cord and line cable to the machine.
2. Connect the AC inlet plug to the AC receptacle.
3. Turn on ("I") the power switch of the machine.



(2) Do not try to disassemble as long as the facsimile is operating normally.

(3) Do not remove unnecessary parts: Try to keep disassembly to a minimum.

(4) When disassembling, follow the prescribed sequence. Otherwise, parts may be damaged.

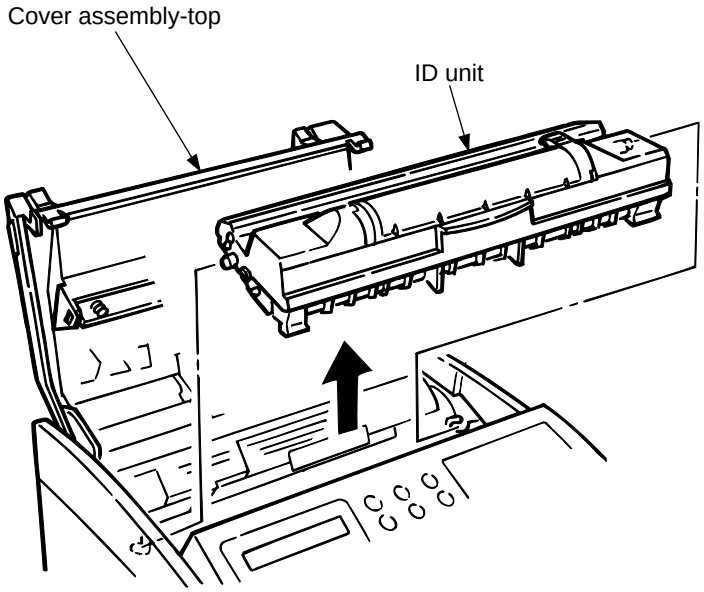
(5) Since screws and small parts are likely to be lost, they should temporarily be attached to their original positions.

(6) When handling items such as printed circuit boards, do not wear gloves that are likely to generate static electricity.

(7) Using a wrist band connected to the ground will protect semiconductors on printed circuit boards from damage by the static electricity.

(8) Do not place printed circuit boards directly on the equipment or on the floor.

(9) Remove the I/D unit (image drum unit)
• Open the cover assembly-top by raising, then take out the I/D unit from the equipment.



Caution: Do not expose the I/D unit to direct sunlight. To protect the I/D unit against room lights, cover it with A4-size paper or the like.

Board or Part	Adjustment
(a) NCU board	DIP switches to be placed in the same position as on the removed board. Refer to Chapter 8.

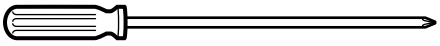
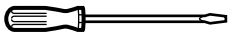
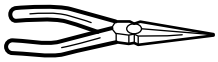
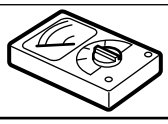
Note: The DIP switches setting is subject to change by PTT parameters.
EN9/EN2 and INU board (Except for USA/Canada version)

(b)	LED print head	When the rank marking of the replaced LED print head (new part) is the same as that of the used LED print head (old part), you do not always have to set the LED print head strobe time by the technical function No. 26. (Refer to Chapter 5).

4.2 Tools

Table 4.1 shows the tools required for the replacement of parts such as circuit boards and mechanical units.

Table 4.1 Tools

No.	Service tools		Q'ty	Remarks
1		Philips screw driver (L)	1	
2		Philips screw driver (M)	1	
3		Flat screw drivers (S)	1	
4		Philips screw driver (S)	1	
5		Radio pliers	1	
6		Nippers	1	
7		Multimeter	1	Short-ciucuit test

4.3 How to Disassemble and Reassemble

This section explains how to disassemble and reassemble the fax.

- Figure 4.1 shows the disassembly procedure flow as generalization.
- The detailed disassembly procedure is explained from sub-section 4.3.1 to 4.3.18.

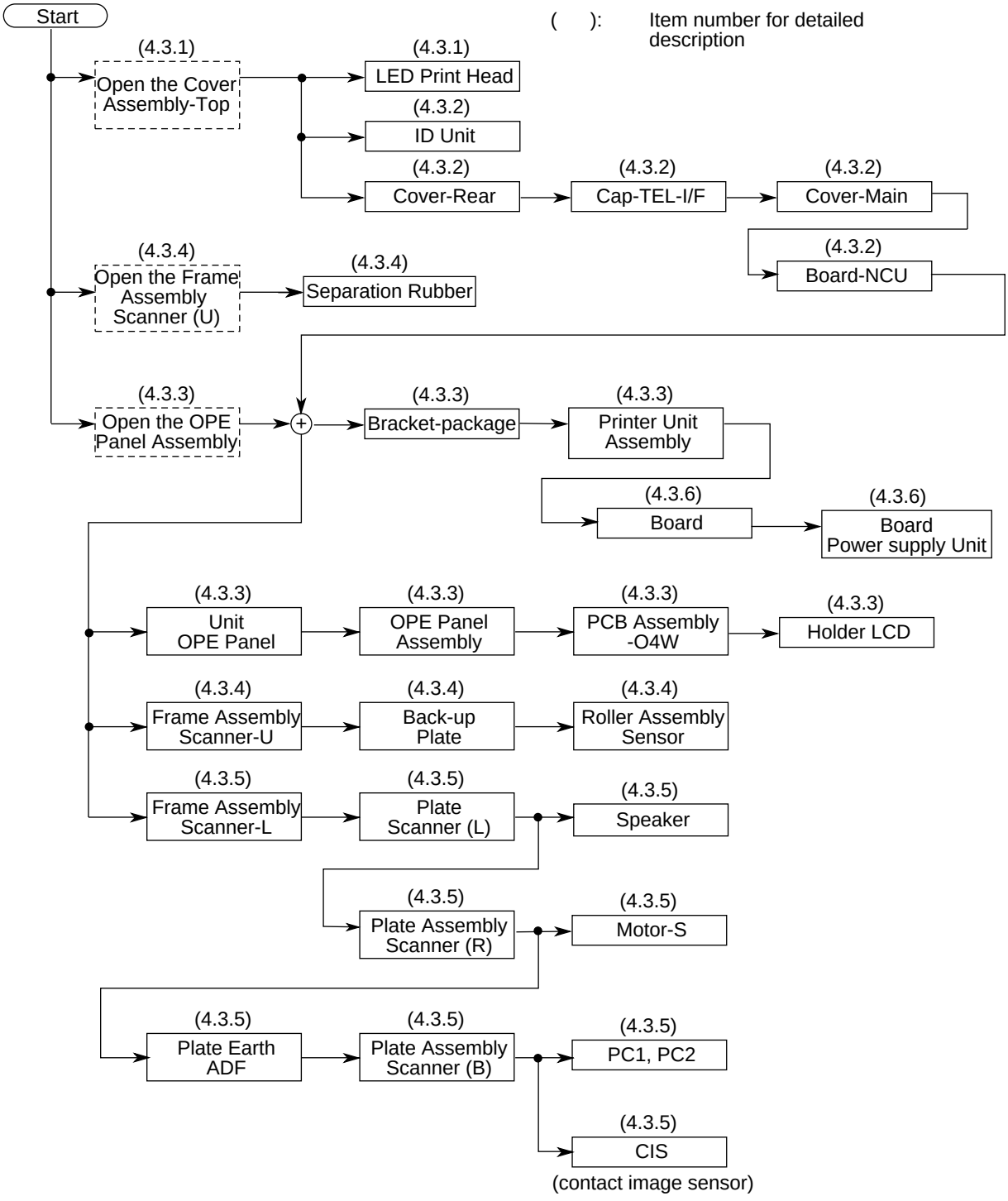


Figure 4.1 (1/2) Disassembly Procedure Flow

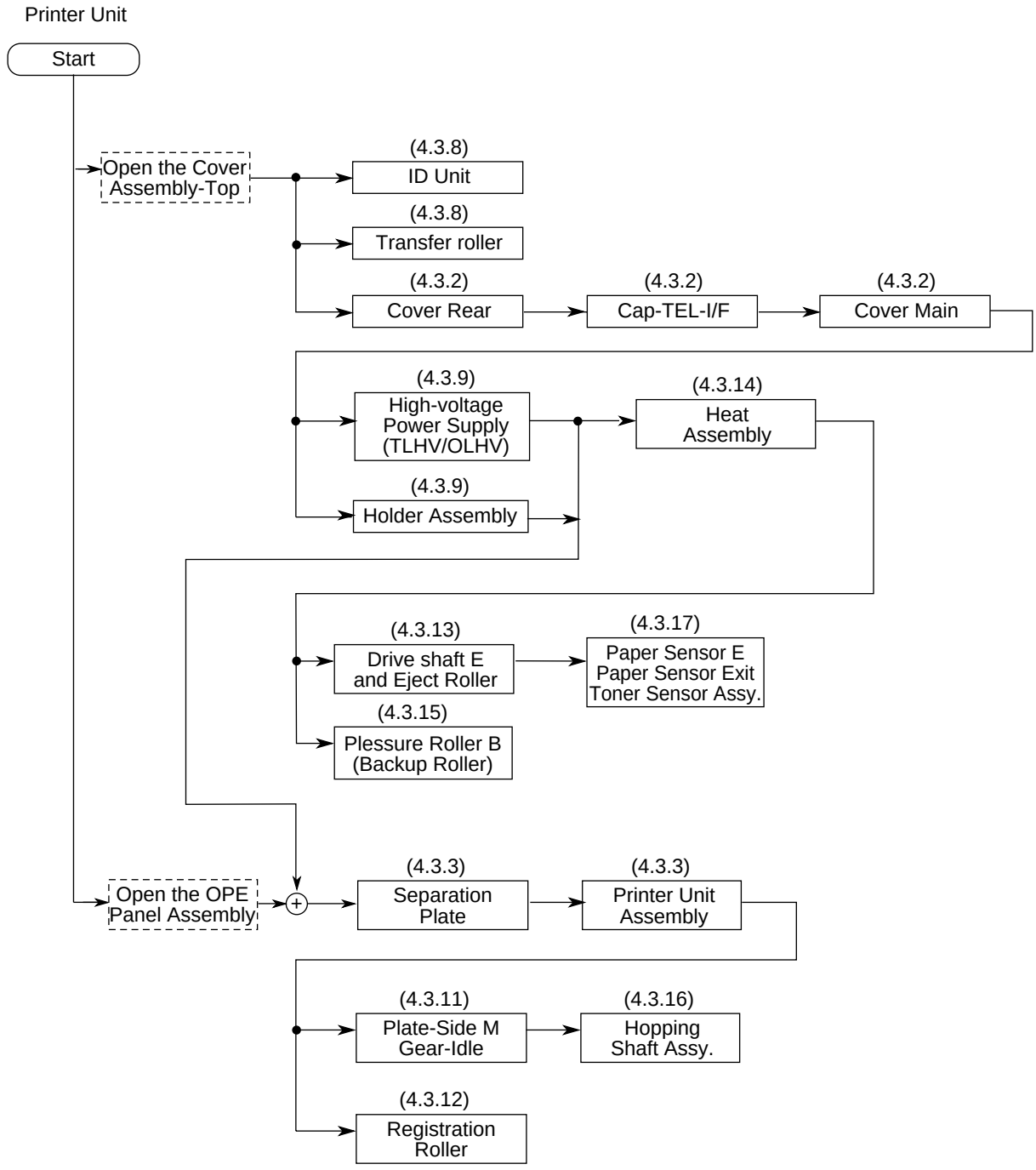


Figure 4.1 (2/2) Disassembly Procedure Flow

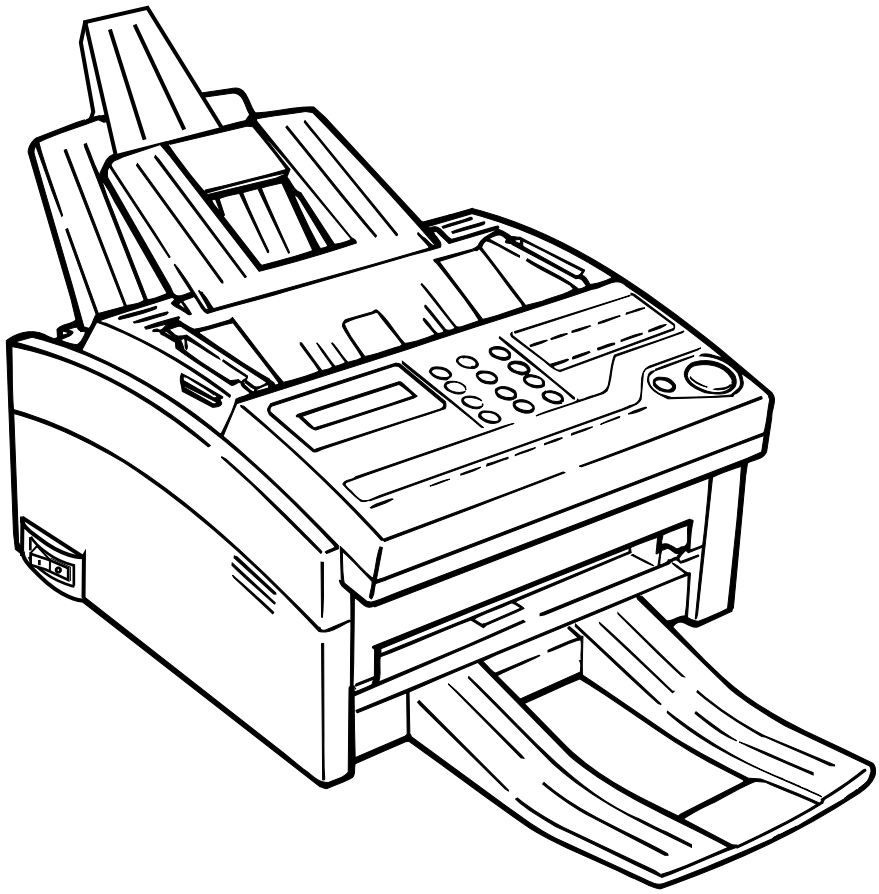


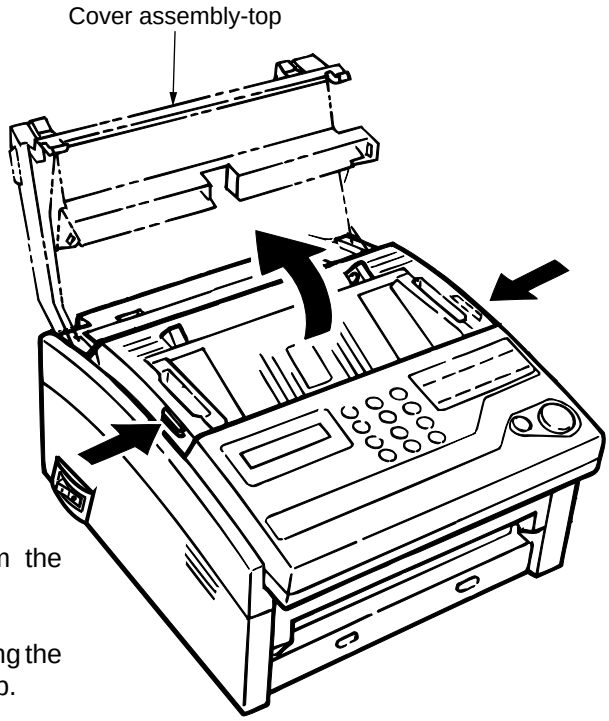
Figure 4.2 Appearance of the FX-046VP

4.3.1 LED Print Head

It is used two kind of head as the LED print head. (208 mm width or 216 mm width)

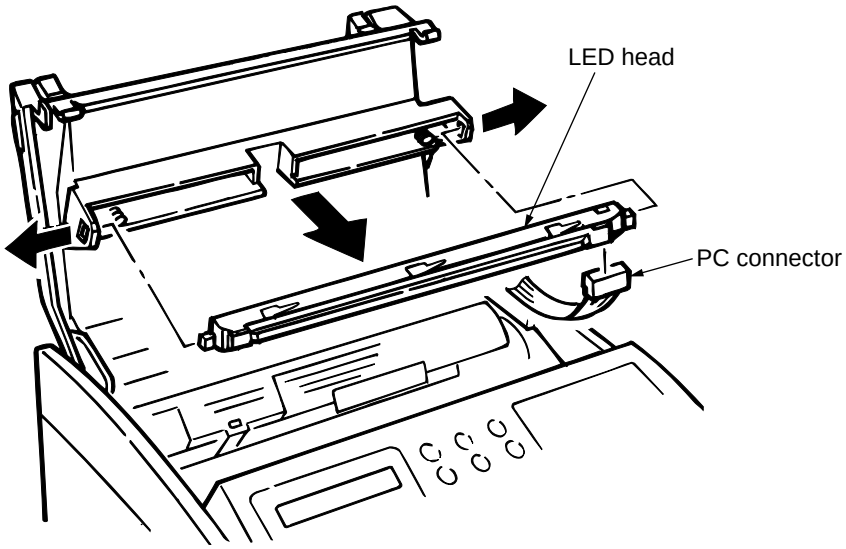
(1) Disassembly procedure

a) Open the cover assembly-top by raising.



b) Disconnect the PC connector from the LED print head.

c) Remove the LED head while spreading the left clamp on the cover assembly-top.



Note: Be sure not to touch directly or push the SLA part of the print head.

(2) Reassembly procedure

Reverse the disassembly procedures.

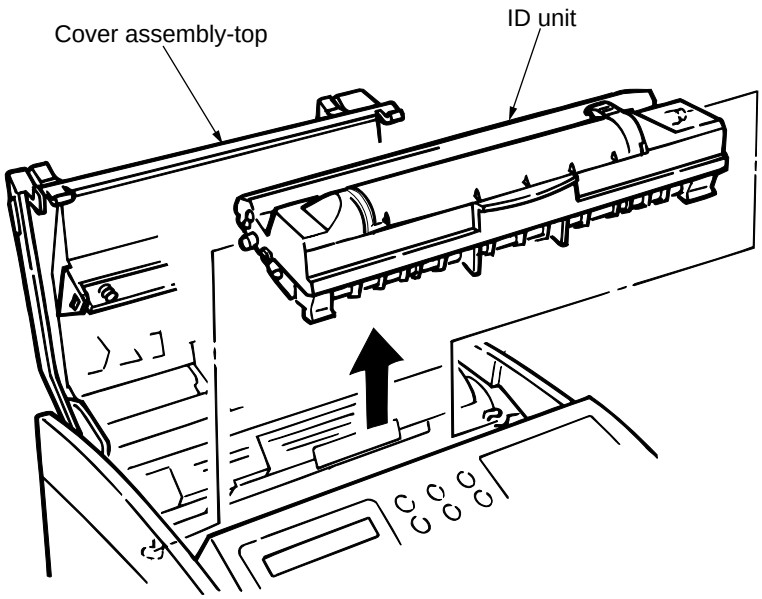
Note: After replacing the LED print head, set drive time of the LED print head following the marking. (Refer to section 5.1). When you replace the LED print head, if the width of the LED head to be used is changed from current version, you should select the head width by the service personnel initial setting. (Refer to Table 2.2 TF No. 26 and 27)

4.3.2 ID Unit, Rear-Cover, Cover-Main, Board-NCU or Board-G4N

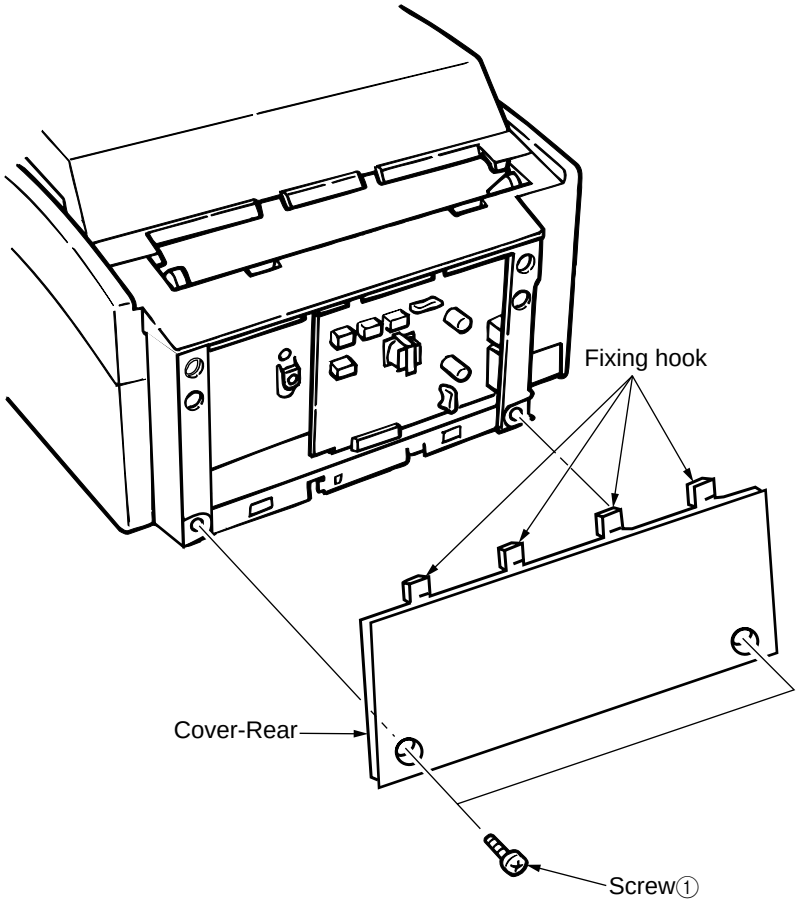
(1) Disassembly procedure

a) Open the cover assembly-top by raising.

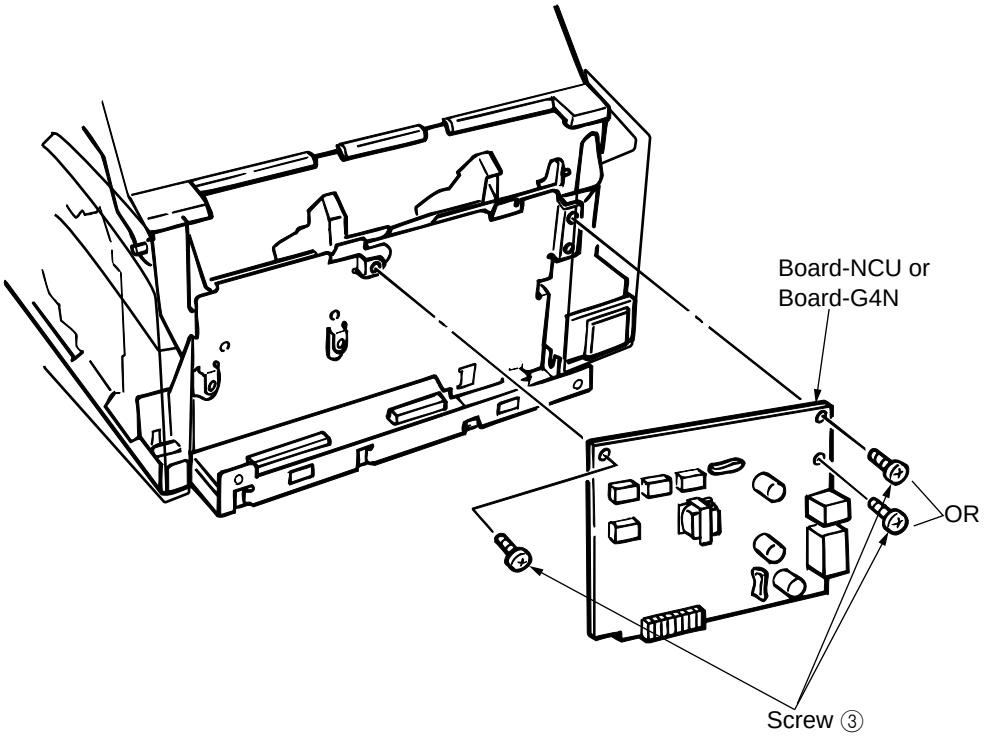
b) Take out the ID unit from the equipment.



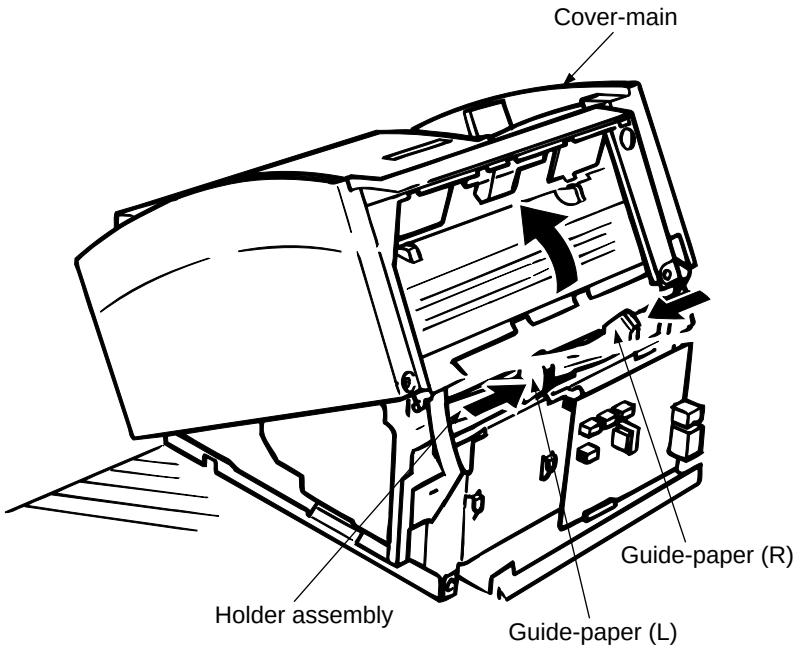
c) Cover-Rear:
Remove the Cover-Rear by removing the screws two and the part of the fixing hooks (4).



d) Board-NCU and Board-G4N
Remove the Board-NCU or Board-G4N by removing the two screw 3 and disconnect the connector (CN3) from Board-V46.



e) First, move the center of Guide-paper (L) and (R) of Holder assembly, and then, open the Cover-Main from the rear side.



(2) Reassembly procedure

Reverse the disassembly procedures.

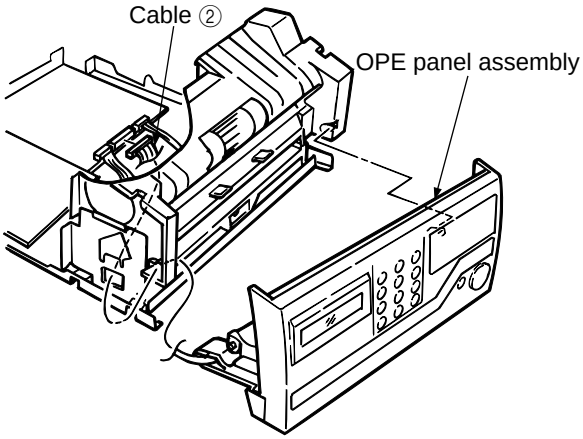
4.3.3 Unit-046 OPE-Panel

(1) Disassembly procedure

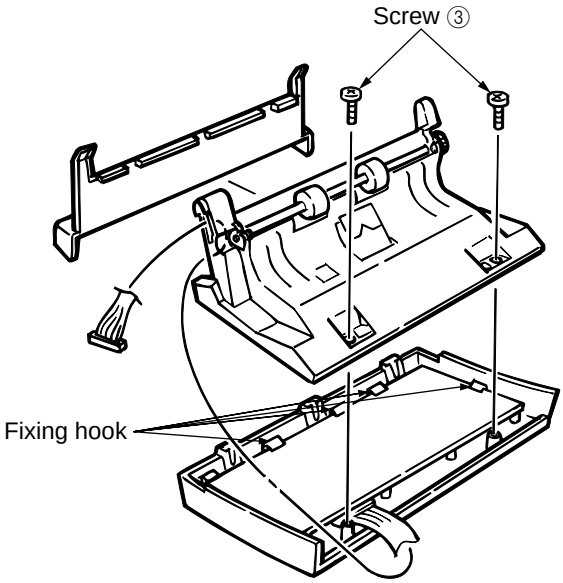
a) First, carry out the disassembly procedure up to the point of the 4.3.2 (Item (e). Cover-main).

b) Dismount the Printer-Unit.
(See Section 4.3.18)

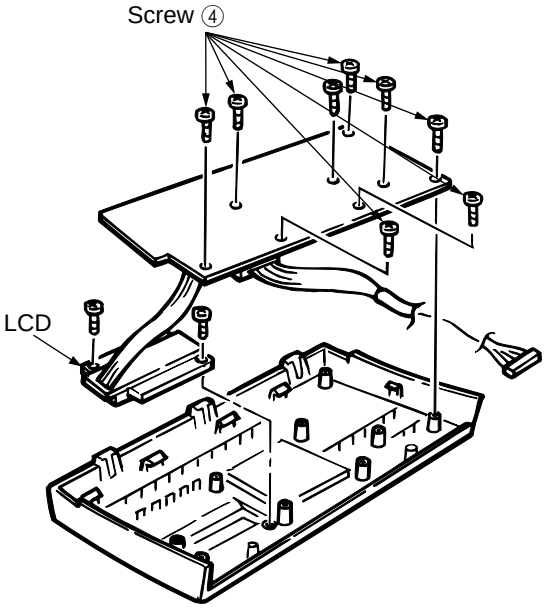
c) Open the OPE-panel assembly.



d) OPE panel assembly:
Remove the OPE panel assembly by removing two screws ③, the eight screws ④ and the part of fixing hooks.



e) Remove the part of LCD by removing the two screws.



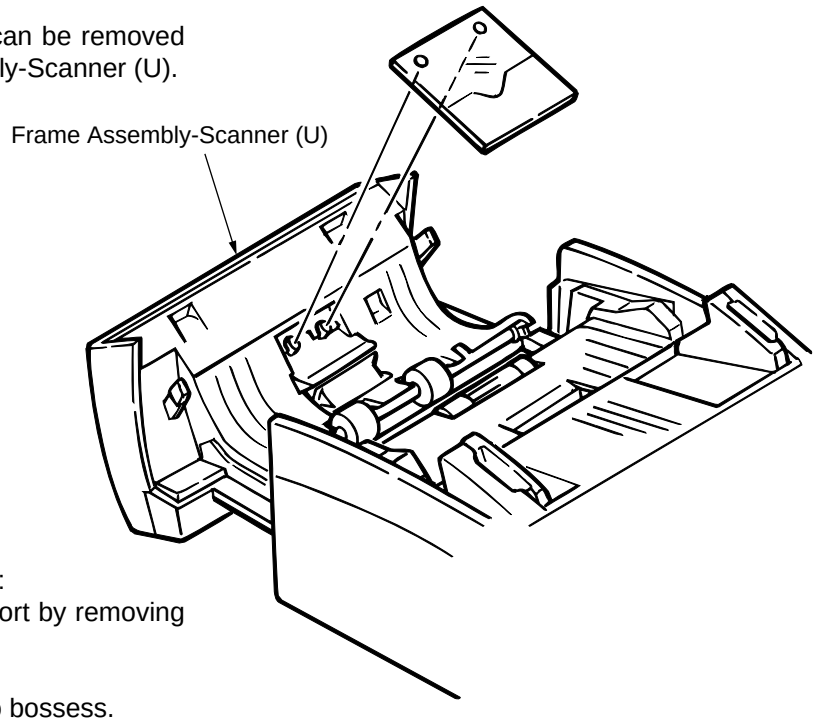
2) Reassembly procedure

Reverse the disassembly procedures.

4.3.4 Separation Rubber, Roller Assembly Sensor

(1) Disassembly procedure

a) Separation rubber:
The separation rubber can be removed from the Frame Assembly-Scanner (U).



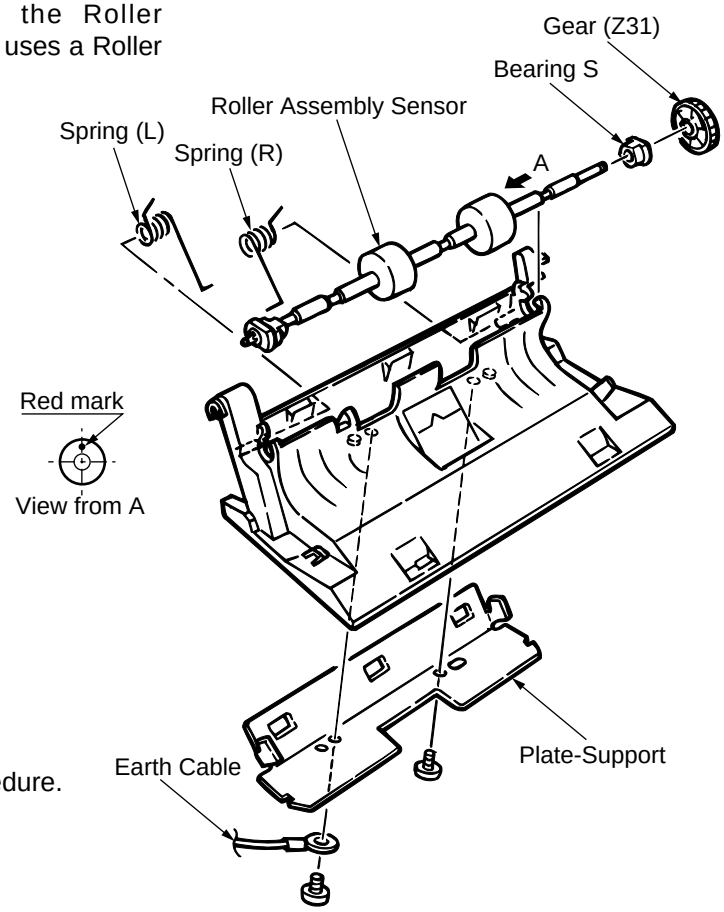
b) Roller Assembly Sensor:
Remove the Plate-Support by removing the two screws ①.

Note: Just fitting to two bossess.

c) Remove the two springs (L) and (R).

d) Remove the Roller Assembly-Sensor by removing the Gear (Z31).

Note: When replacing the Roller Assembly Sensor, uses a Roller with red mark.



(2) Reassembly procedure

Reverse the disassembly procedure.

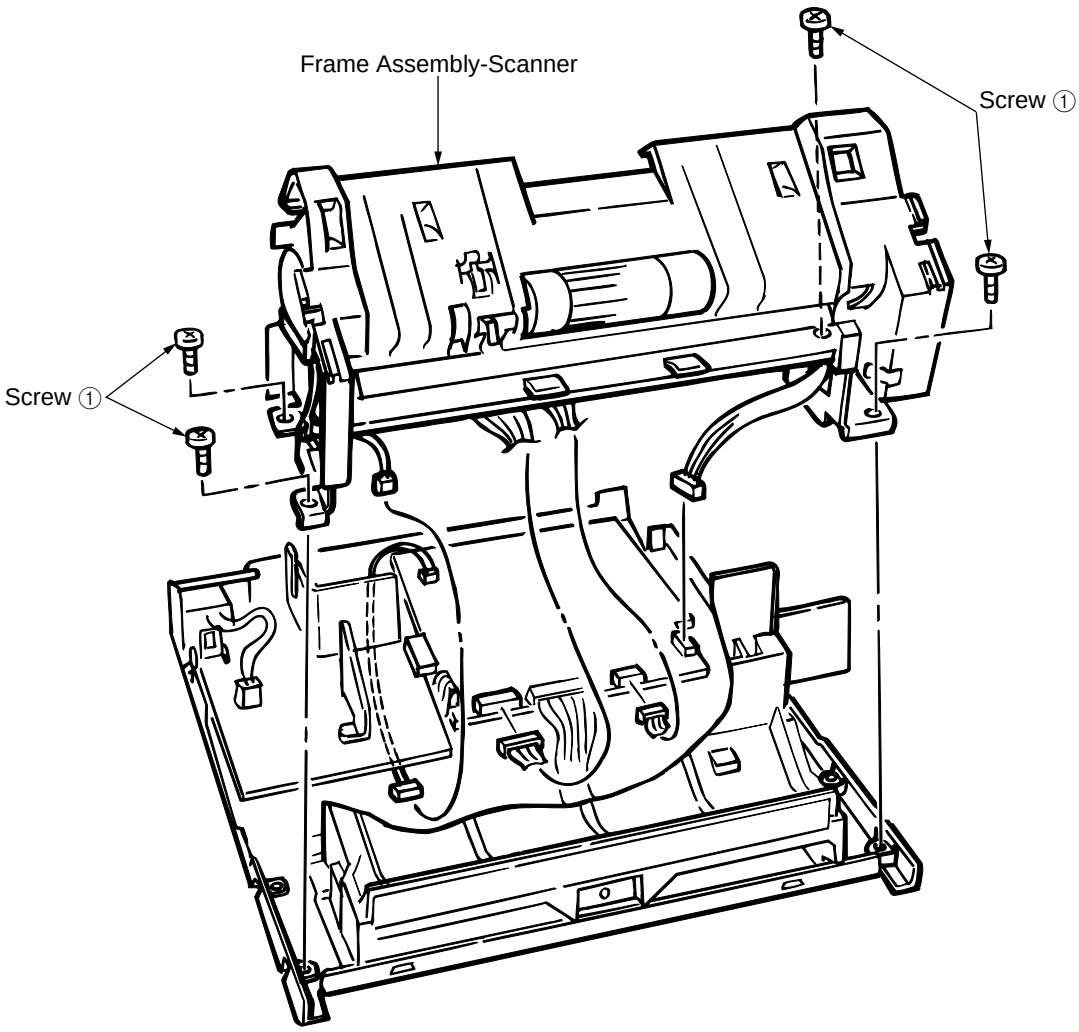
4.3.5 Roller Assembly-ADF, CIS (contact image sensor), Lever-PC1 and PC2

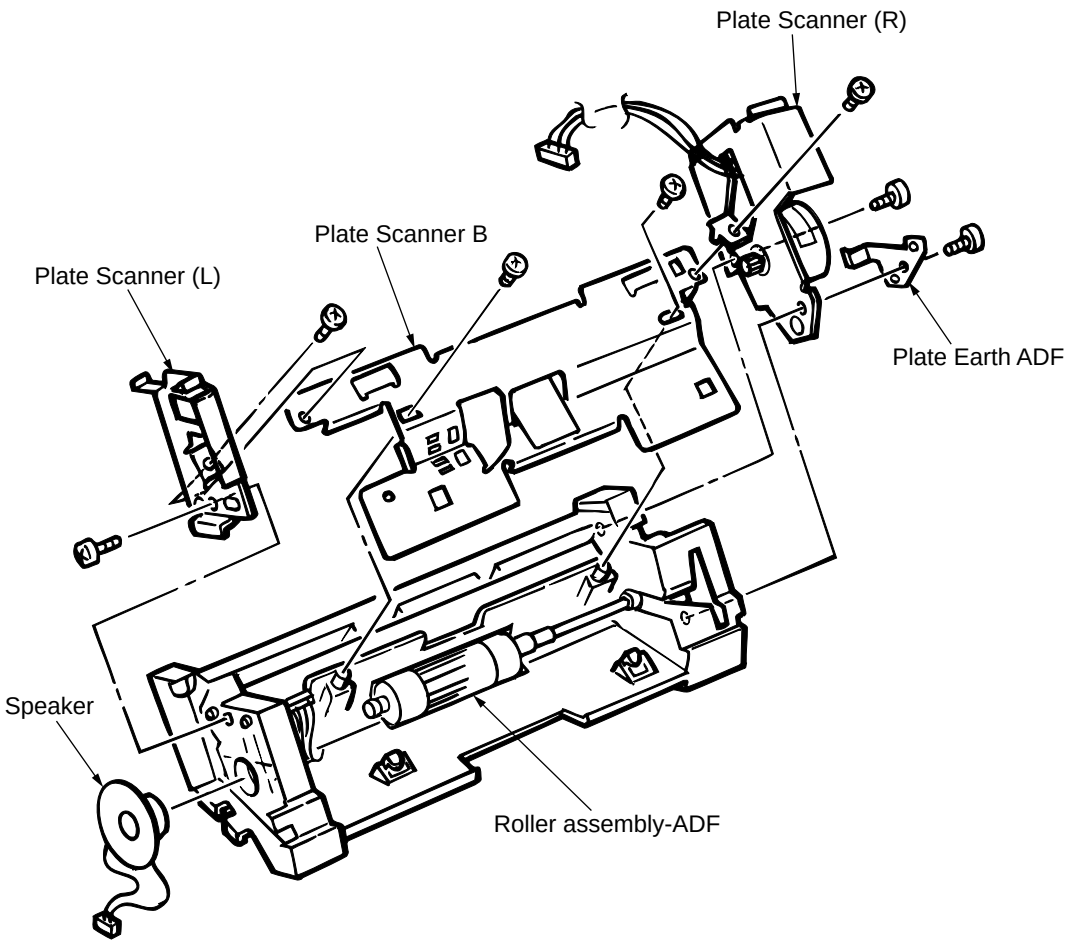
(1) Disassembly procedure

a) First, carry out the disassembly procedure up to the point of the 4.3.2 and 4.3.3.

b) Dismount the Printer-Unit.
(See Section 4.3.18)

c) Remove the Frame assembly-Scanner (L) by removing the four screws ① and the four connectors.

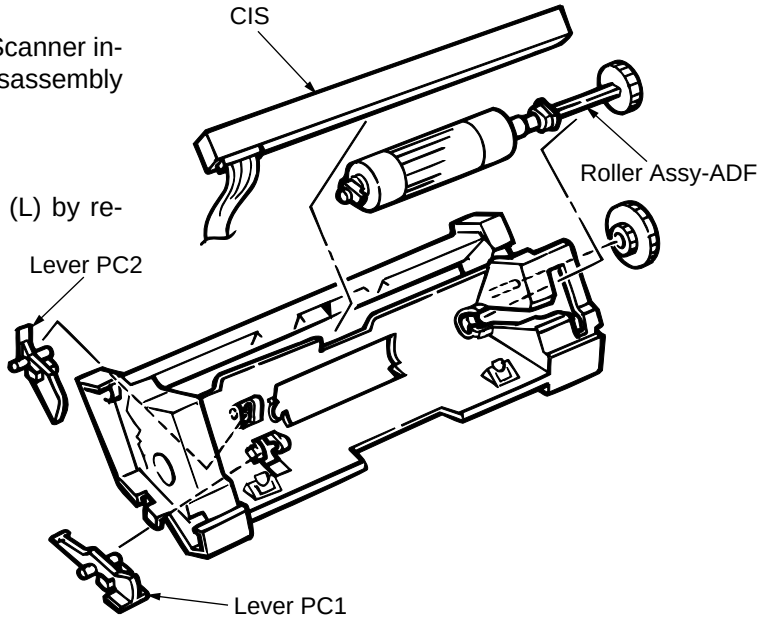




d) Turn the Frame Assembly-Scanner inside out and perform the disassembly procedure.

e) Remove the Plate Scanner (L) by removing the two screws.

f) Remove the Speaker.

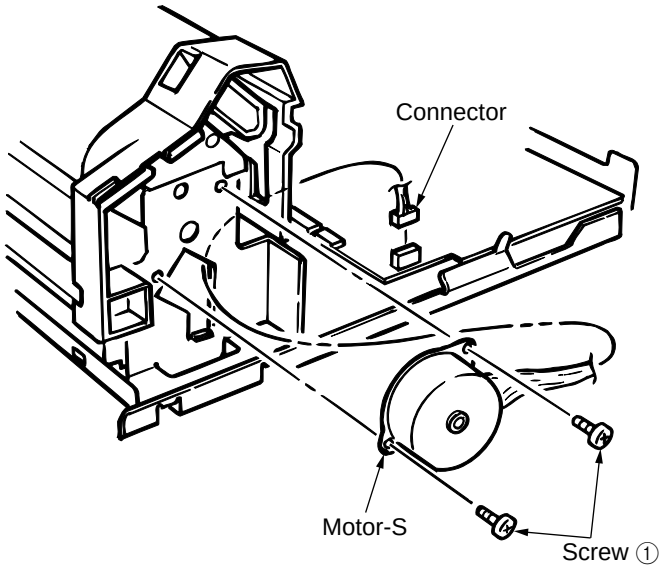


g) Remove the Plate Assembly-Scanner (R) and Plate Earth ADF by removing the three screws.

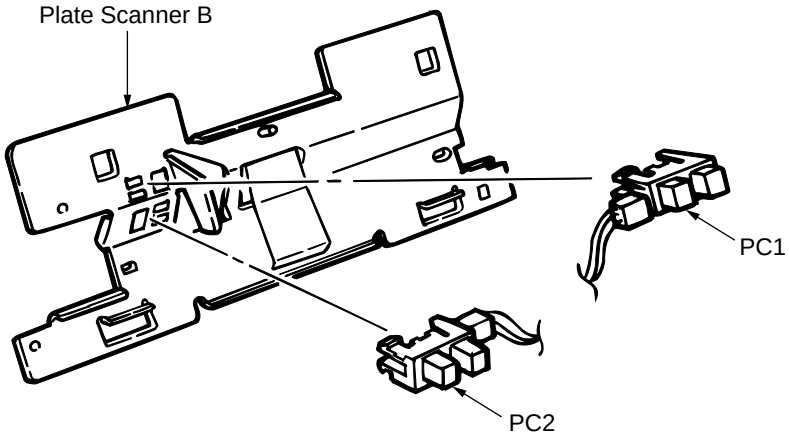
h) Remove the Plate Scanner (B) by removing the two screws and the part of the fixing hooks.

i) Remove the CIS (contact image sensor).

j) Motor-S:
Remove the Motor-S by removing the connector of motor and the two screws ①.



k) Photo-Sensor (PC1, PC2):
After disconnecting the two connectors, remove the photo-coupler sensors PC1 and PC2 on the Plate Scanner B by pressing the latch using the flat screwdriver or like.



(2) Reassembly procedure

Reverse the disassembly procedures.

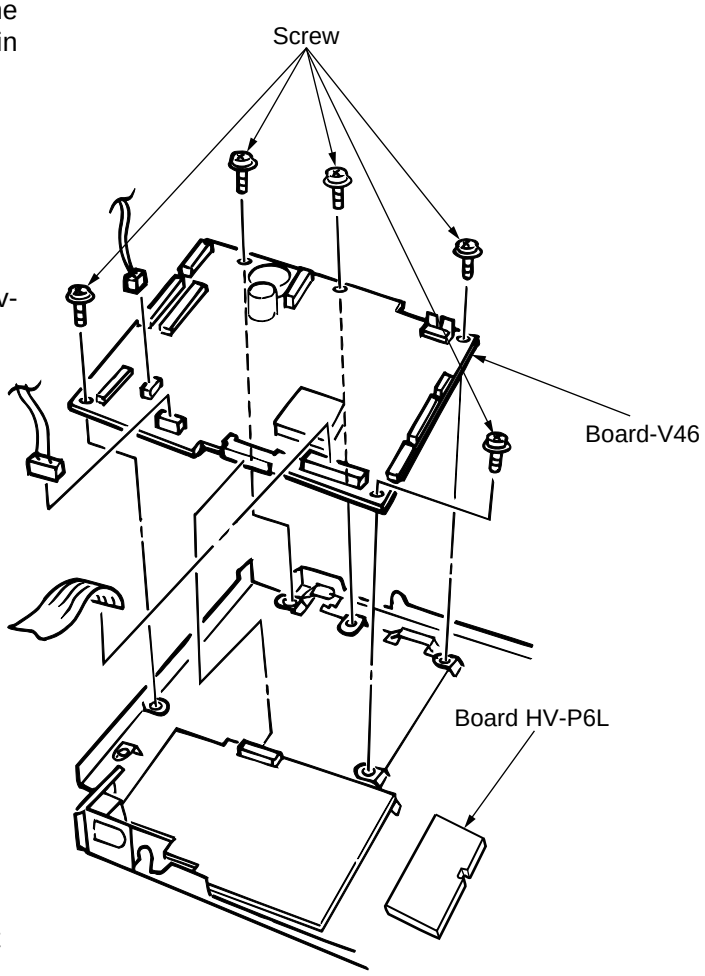
4.3.6 Board-V46 Power Supply Unit, Board HV-P6L

(1) Disassembly procedure

a) First, carry out the disassembly procedure up to the point of the 4.3.2 (Cover-Rear, Cover-Main etc.).

b) Board-V46:
Disconnect the all connectors.

c) Remove the Board-V46 by removing the five screws.

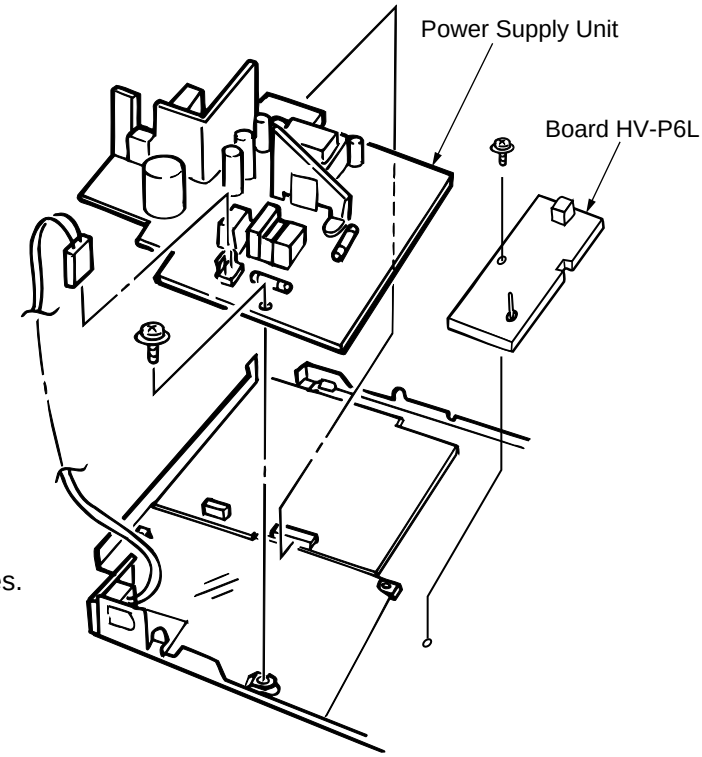


d) Power Supply Unit:
Disconnect the all connectors.

e) Remove the Power Supply Unit by removing the screw.

f) Board HV-P6L:
Disconnect the all connectors.

g) Remove Board HV-P6L by removing one screw.

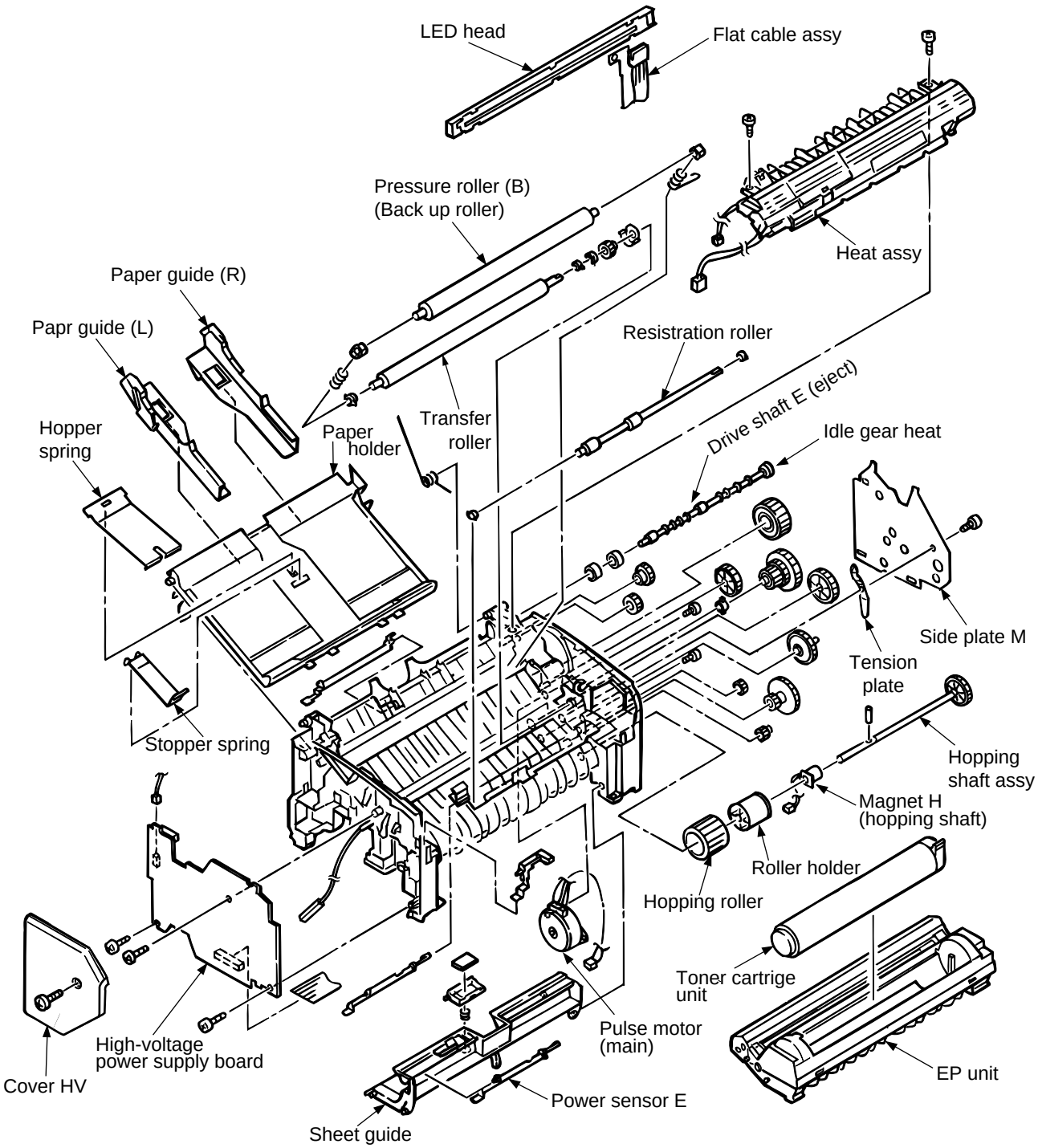


(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.7 Printer Unit Section

[Base Frame Unit]

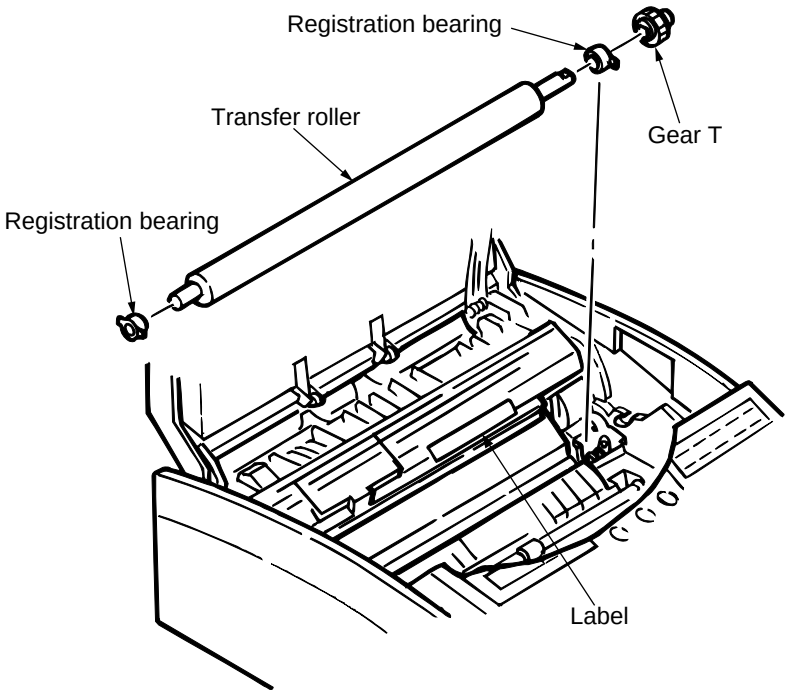


4.3.8 Transfer Roller

(1) Disassembly procedure

a) Open the cover assembly-top by raising and remove the ID unit.

b) Remove the right claw.
Then, dismount transfer roller, two registration bearing, and gear T.



(2) Reassembly procedure

Reverse the disassembly procedures.

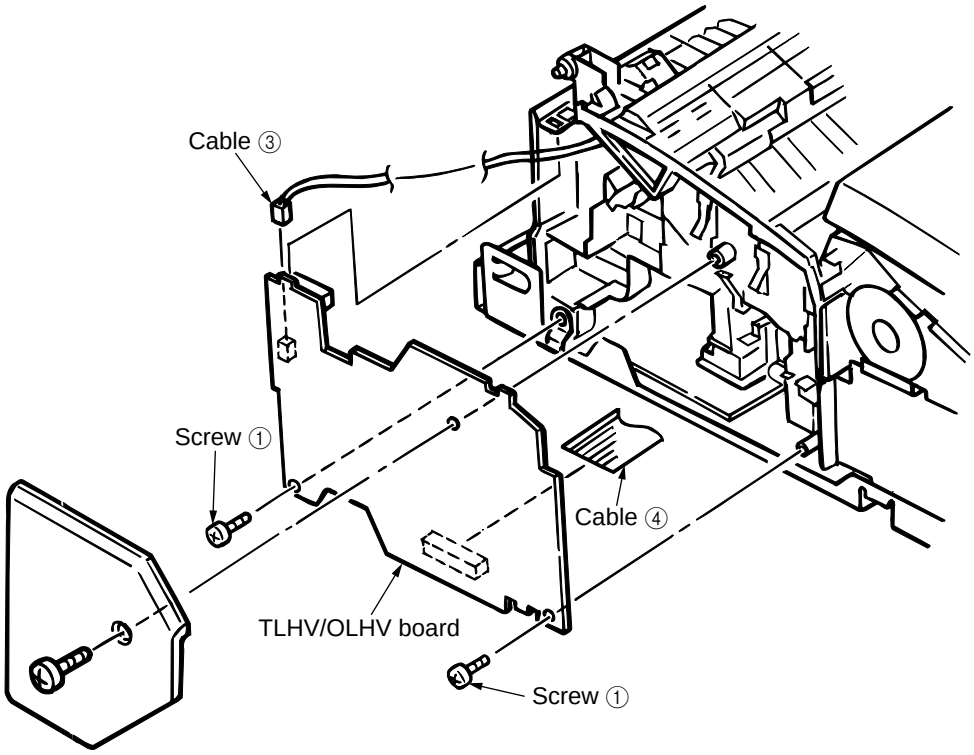
4.3.9 High-Voltage Power Supply Unit (HV-P2H)

(1) Disassembly procedure

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

b) Remove three screws ① then remove Cover-HV and draw out high-voltage power supply board (HV-P2H).

c) Disconnect all the cables ③ and ④ from high-voltage power supply board (HV-P2H) and dismount high-voltage power supply board.



Caution: Note the following when assembling the high-voltage power supply board:
- Mount the high-voltage power supply board with Cover-top assembly removed or open.
- Take care that cable ③ will not interfere with the paper sensor exit when it is connected.

(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.10 Holder Assembly

(1) Disassembly procedure

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

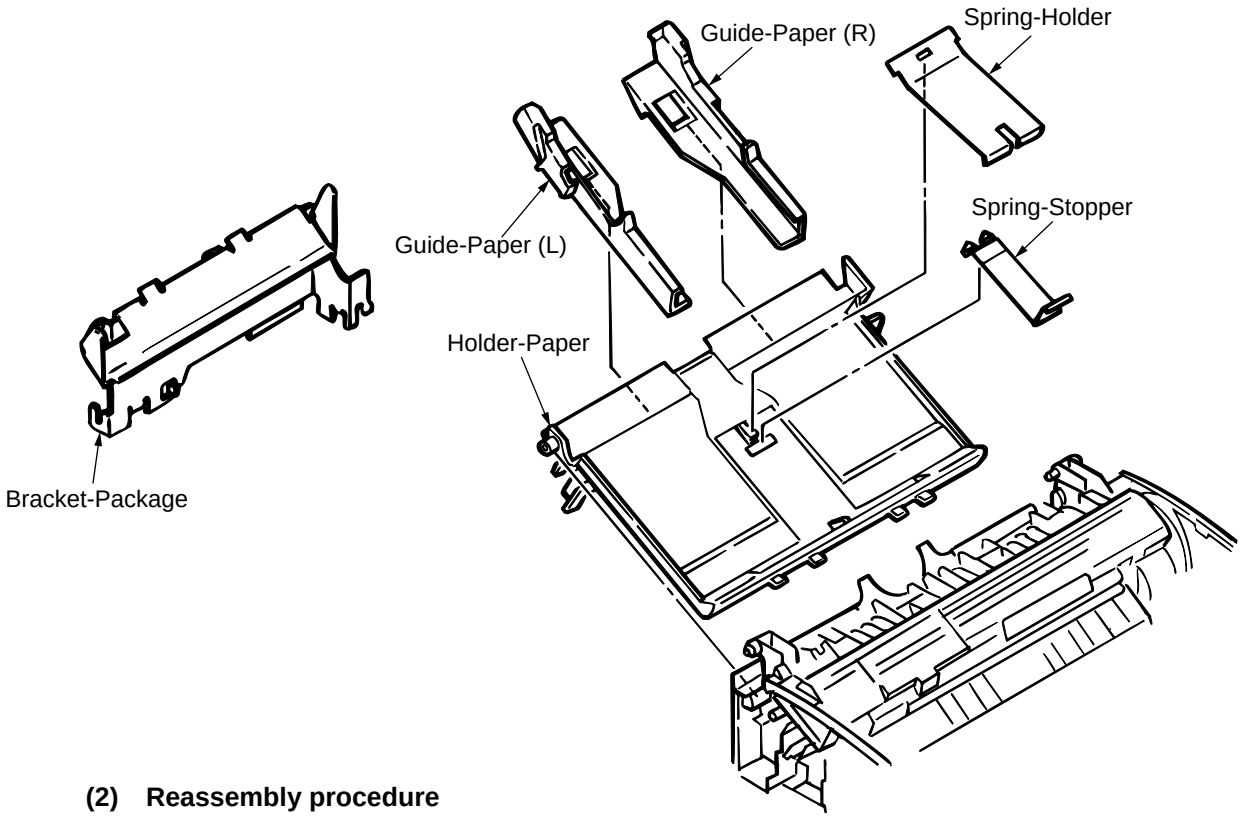
b) Dismount the Bracket-Package.

c) Dismount the Holder-Paper.

d) Unlock and dismount the Guide-Paper (L) and Guide Paper (R).

e) Remove the claw and dismount Spring-Holder.

f) Remove the claw and dismount Spring-Stopper.



(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.11 Plate-Side M and Gear-Idle

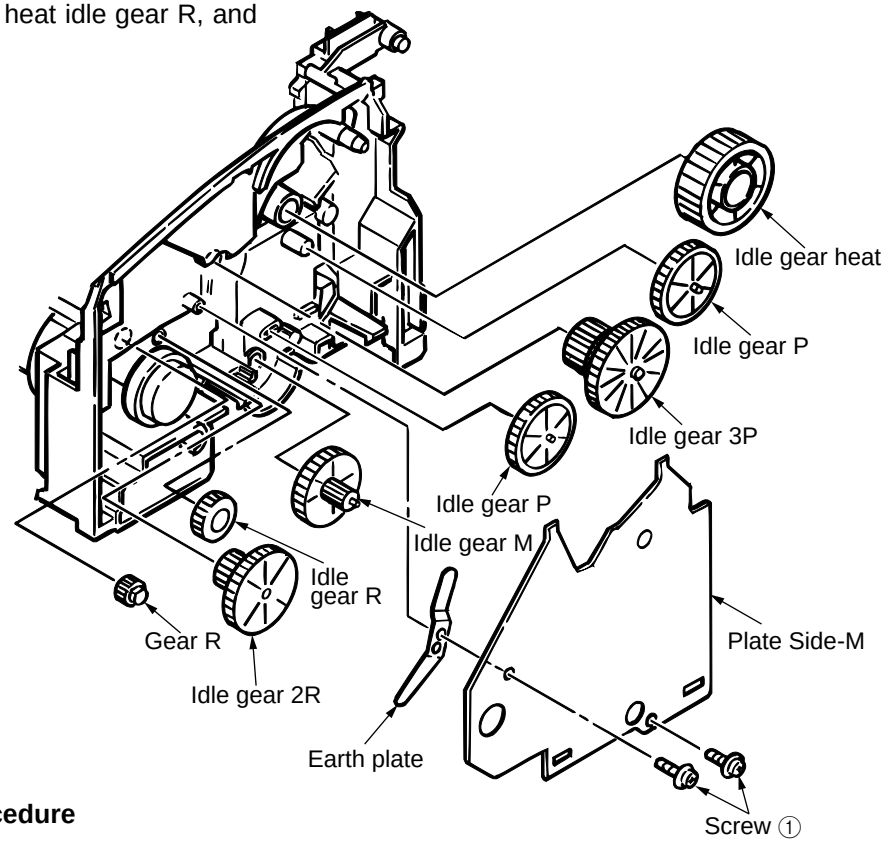
(1) Disassembly procedure

Perform parts replacement while making the base frame assembly stand so that Plate-Side M will face upward.

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

b) Remove two screws ① and two claws, then dismount Plate-Side M.

c) Dismount Plate-Earth, two idle gears P, idle gear M, idle gear 3R, idle gear 2R, idle gear heat idle gear R, and gear R.



(2) Reassembly procedure

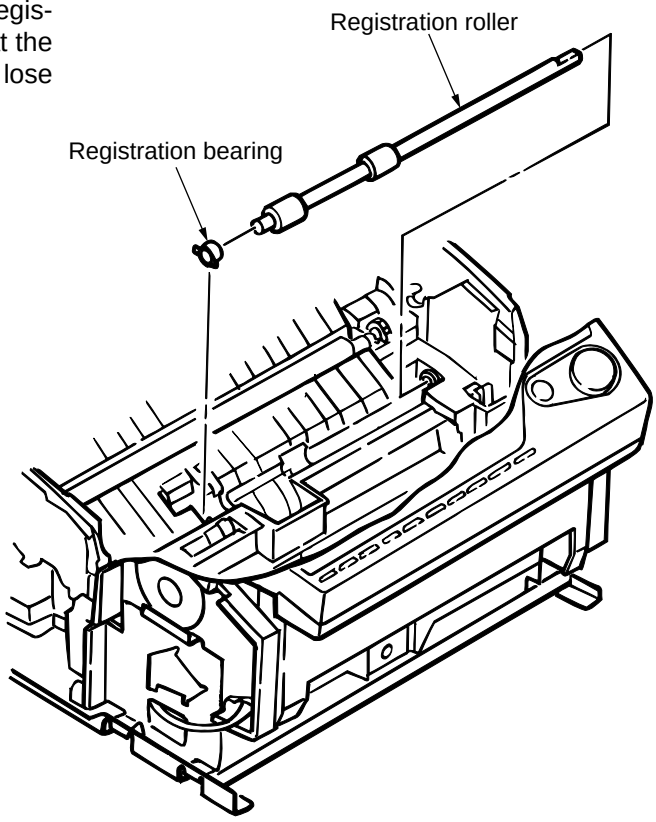
Reverse the disassembly procedure.

4.3.12 Registration Roller

(1) Disassembly procedure

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

b) Move registration roller to the right and dismount it by lifting. (Two registration bearings also come off at the same time. Take care not to lose them.)



(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.13 Drive Shaft E (Eject) and Eject Roller

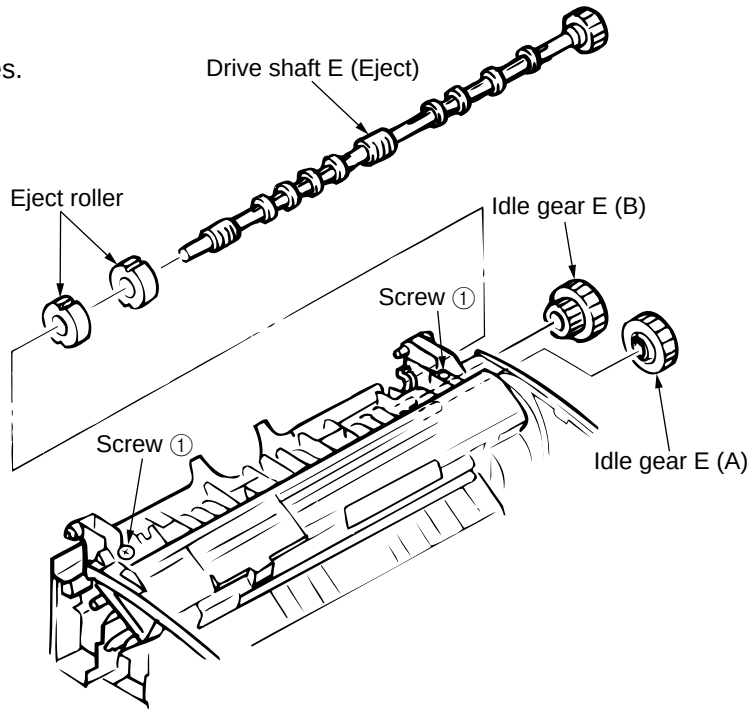
(1) Disassembly procedure

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

b) Remove two screws ① from Cover Heat Assembly (section 4.3.14), lift the heat assay, and dismount idle gear E (A) and idle gear E (B).

c) Unlock and dismount drive shaft E (Eject).

d) Dismount two eject rolles.



(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.14 Heat Assembly

This section explains how to dismount the heat assembly and parts in the assembly.

(1) Disassembly procedure

< Dismounting the heat assembly>

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

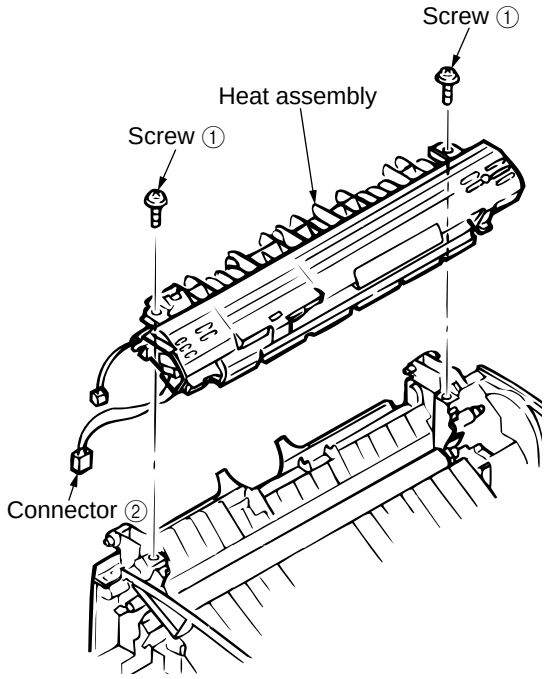
b) Dismount the high-voltage power supply board. (See Section 4.3.9)

c) Remove NCU-Board with two screws.

d) Remove Bracket-Package with three screws, then disconnect Cable-Flat from connector on Board-V46 (M-CNT).
(See Sction 4.3.18)

e) Pull out the Holder-Assy. (See Section 4.3.10)

f) Disconnect connector ②, remove two screws ①, and dismount the heat assembly.



<Dismounting parts in heat assembly>

a) Dismount heat separator.

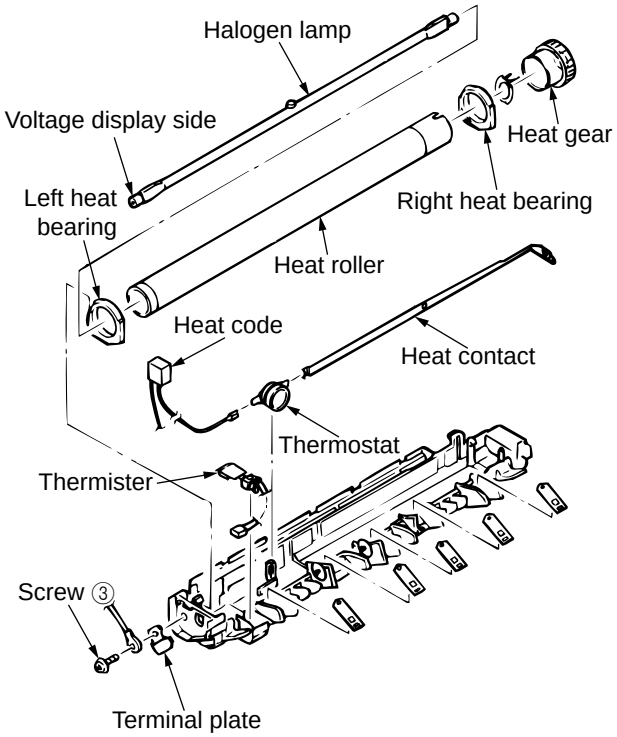
b) Remove screw ③ and dismount terminal plate. (Handle heat assembly carefully because Halogen lamp comes off.)

c) Turn left and right heat bearings in the arrow direction to unlock. Then, dismount halogen lamp, heat bearing, heat roller, and heat gear together. (Take care not to drop the Halogen lamp.)

d) Dismount thermistor.

e) Dismount the clamp, then thermostat, heat contact, and heat cord together.

f) Dismount heat contact and heat cord from thermostat.



Caution: Take care not to bend the claw when dismounting heat bearing.

(2) Reassembly procedure

Reverse the disassembly procedures

4.3.15 Pressure Roller B (Back Up Roller)

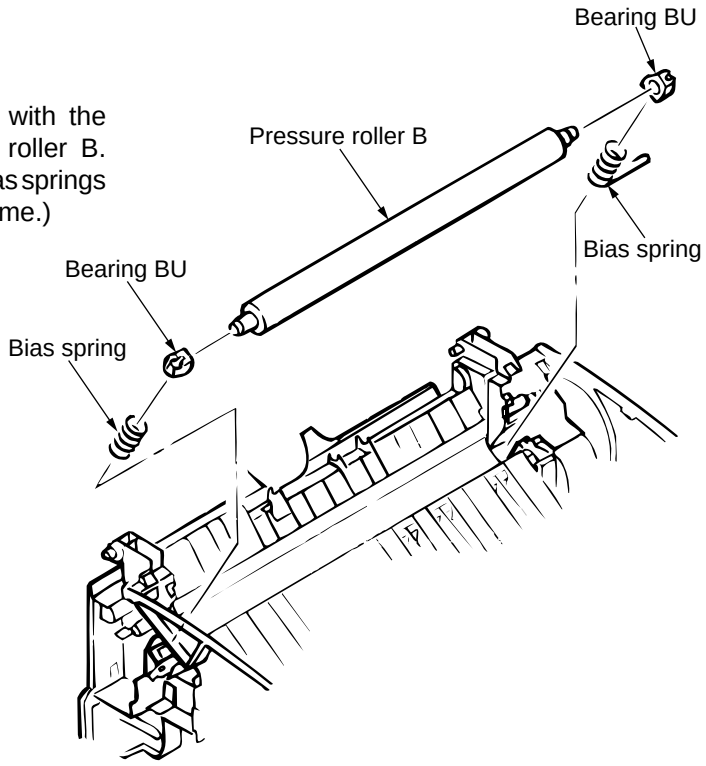
(1) Disassembly procedure

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

b) Dismount the high-voltage power supply board. (See Section 4.3.9)

c) Dismount heat assembly. (See section 4.3.14)

d) Dismount the engagement with the left ground, then pressure roller B. (Two bearing BUs and two bias springs also come off at the same time.)



(2) Reassembly procedure

Reverse the disassembly procedures

4.3.16 Hopping Shaft Assembly

(1) Disassembly procedure

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

b) Dismount the high-voltage power supply board. (See Section 4.3.9)

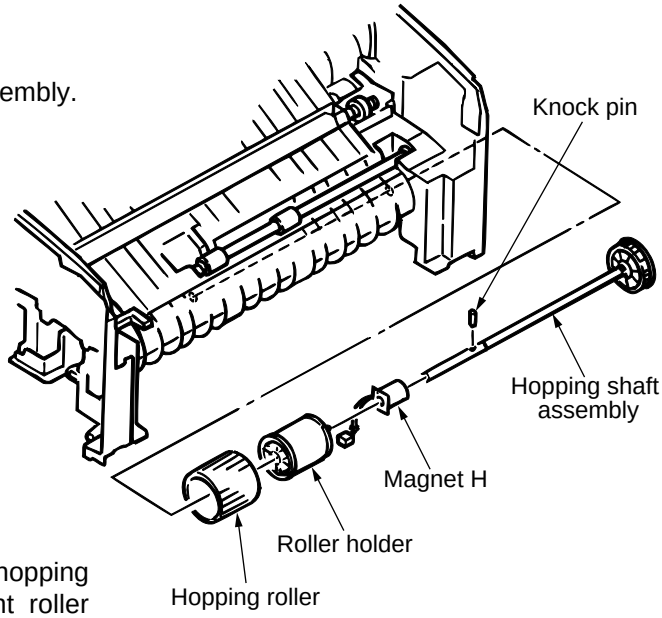
c) Dismount the paper holder assembly. (See Section 4.3.10)

d) Dismount the sheet guide. (See Section 4.3.11)

e) Dismount the side plate M. (See Section 4.3.11)

f) Raise up roller holder, slide hopping shaft assembly, and dismount roller holder and hopping roller. (Knock pin also comes off at the same time. Take care not to lose it.)

g) Draw out hopping shaft assembly to the right and dismount magnet H.



(2) Reassembly procedure

Reverse the disassembly procedures

4.3.17 Paper Sensor E, Paper Sensor Exit and Toner Sensor Assembly

(1) Disassembly procedure

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-MAIN).

b) Dismount the high-voltage power supply board. (See Section 4.3.9)

c) Dismount the paper holder assembly. (See Section 4.3.10)

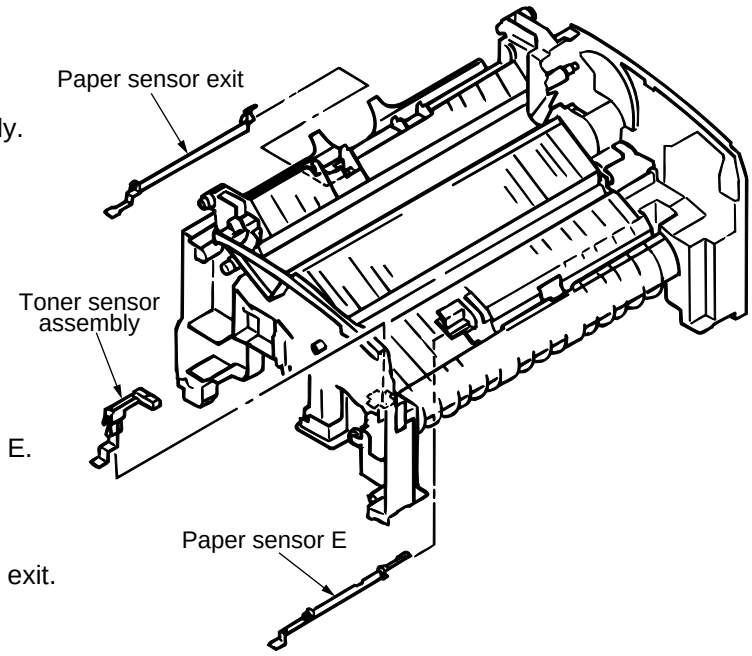
d) Dismount the heat assembly. (See Section 4.3.14)

e) Dismount the drive shaft E. (See Section 4.3.13)

f) Dismount the paper sensor E.

g) Dismount the paper sensor exit.

h) Dismount the toner sensor assembly.



(2) Reassembly procedure

Reverse the disassembly procedures

4.3.18 Printer Unit

(1) Disassembly procedure

a) First, carry out procedure up to the point of the 4.3.2 (ID Unit, Cover-Rear and Cover-Main).

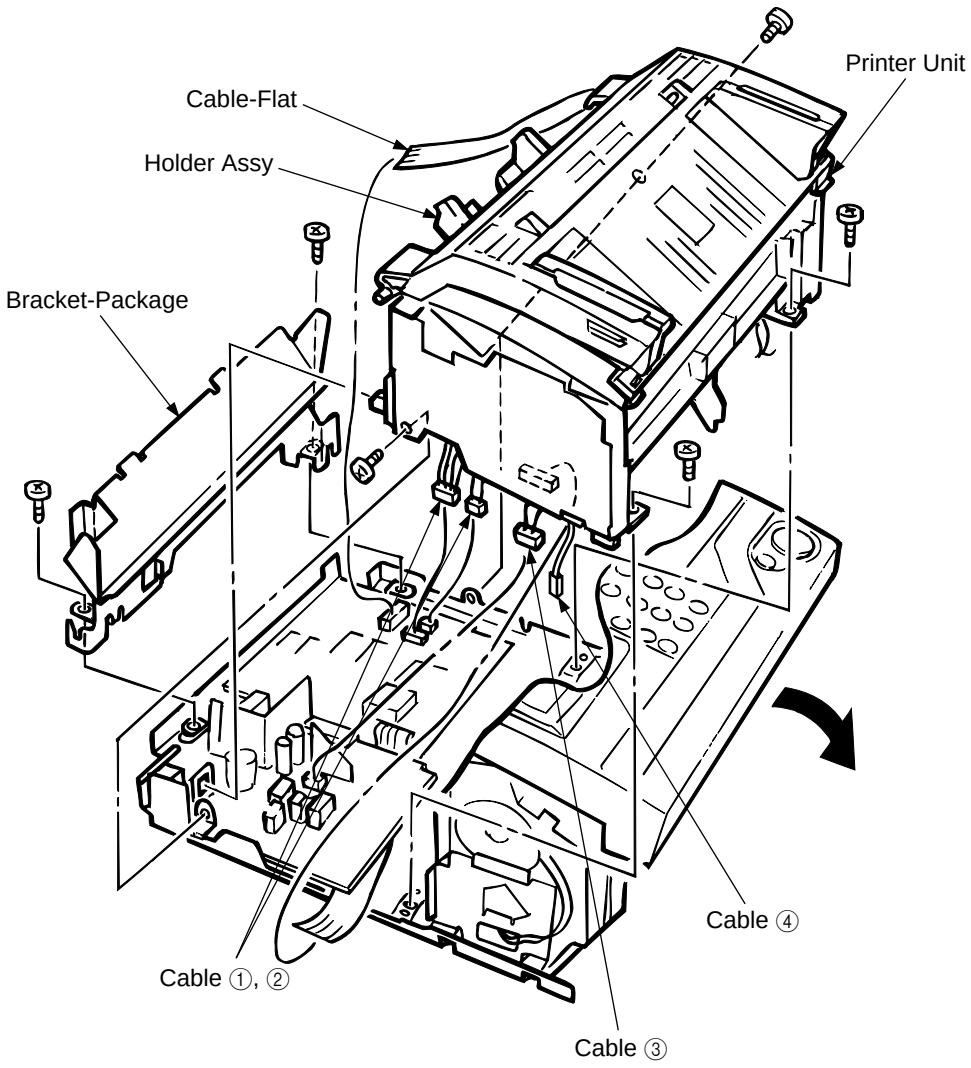
b) Remove Bracket-Package with three screws, then disconnect Cable-Flat from connector on Board-V46 (M-CNT).

c) Pull out the Holder-Assy.

d) Dismount the high-voltage power supply board.
(See Section 4.3.9)

e) Disconnect cable ① and ② from connector on Board-V46 (M-CNT), and disconnect cable ③ from Connect on Power Supply Unit, and disconnect cable ④ from Board HV-P6L.

f) Remove the Printer Unit by removing three screws.



5. ADJUSTMENTS

5.1 Setting of LED Print Head Drive Time

5.1.1 Setting for FX-046VP

- Adjustment point: Technical Function No. 26.

* To bring the LCD up to Technical Function, press SELECT FUNCTION key once, COPY key twice and "2" key (In case of no message in memory).

Note: When the rank marking of the replaced LED print head (new part) is the same as that of the used LED print head (old part), you do not always have to set the LED print head drive time.

Adjustment:

1) Turn AC power ON.
2) Setting of LED print head should be according to the Table 5.1.1 below:

Table 5.1.1 Setting of Technical Function No. 26

Setting / Rank Marking	MSB ↕ LSB																														
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1
		0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
		0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
291 – 313										*																							
269 – 290											*																						
248 – 268												*																					
229 – 247													*																				
212 – 228														*																			
196 – 211															*																		
181 – 195																*																	
168 – 180																	*																
155 – 167																		*															
143 – 154																			*														
132 – 142																				*													
122 – 131																					*												
113 – 121																						*											
105 – 112																							*										
100 – 104																								*									

Note: The luminous intensity ranking is determined by the first, second and third digits from the right in the LED print head (i.e. in ---XX122, 122 is the luminous intensity ranking.)

5.2 Confirmation

5.2.1 Confirmation Items

The clock frequency and power voltage of the machine are not possible to adjust in the field. However, their measurement procedures are described here for confirmation of clock frequency and each voltage.

1) Clock Frequency

- Measurement point: V46 board; IC21-1 pin and ground terminal
- Specification: 20.000 MHz ± 50 PPM

Note: If the counter does not read with 20.000 MHz, replace with a new crystal oscillator (X1).

2) +5V DC Voltage (SUB)

- Measurement point: V46 board; CN7-12 pin and ground terminal
- Specification: +5.2V ± 4%

3) +5V DC Voltage

- Measurement point: V46 board; CN7-2 & 3 pin and ground terminal
- Specification: +5.1V ± 4%

4) -8V DC Voltage

- Measurement point: V46 board; CN7-9 pin and ground terminal
- Specification: -12V to -6.5V

5) +24V DC Voltage

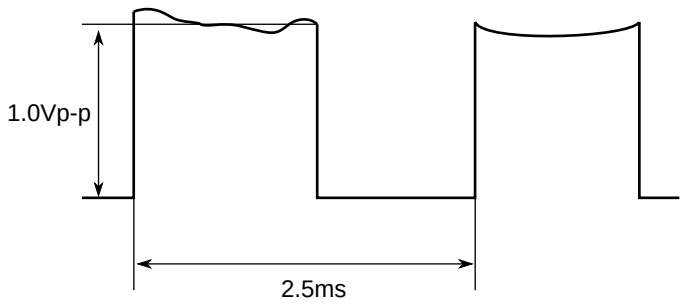
- Measurement point: V46 board; CN7-1 pin and ground terminal
- Specification: +24V ± 5%

6) +30V DC Voltage

- Measurement point: V46 board; CN7-8 pin and ground terminal
- Specification: +26V to +40V

7) Contact Image Sensor Output (SIG signal)

- Measurement point: V46 board; CN5-1 pin and ground terminal
- Specification: A waveform sample is shown below.
- Test chart: White sheet (A4 size)



5.2.2 Measurement

1) Trun the AC power OFF.
2) Carry out the disassembly procedure up to Cover assembly-top, Frame assembly-scanner, and Unit-printer.
   (Refer to the Mechanical Disassembly and Reassembly in Chapter 4.)
3) Connect extension cables to the V46 board.
4) Connect the frequency counter (for clock frequency), digital voltmeter (for power voltage) and Oscilloscope (for SIG signal). See Figure 5.1.
5) Turn AC power ON.
   Main power supply is set to "ON" (PC1 ON) by loading the document on the cover-top. (except +5V SUB)
6) Measurement
7) Turn the AC power OFF.
8) Reverse the disassembly procedures.

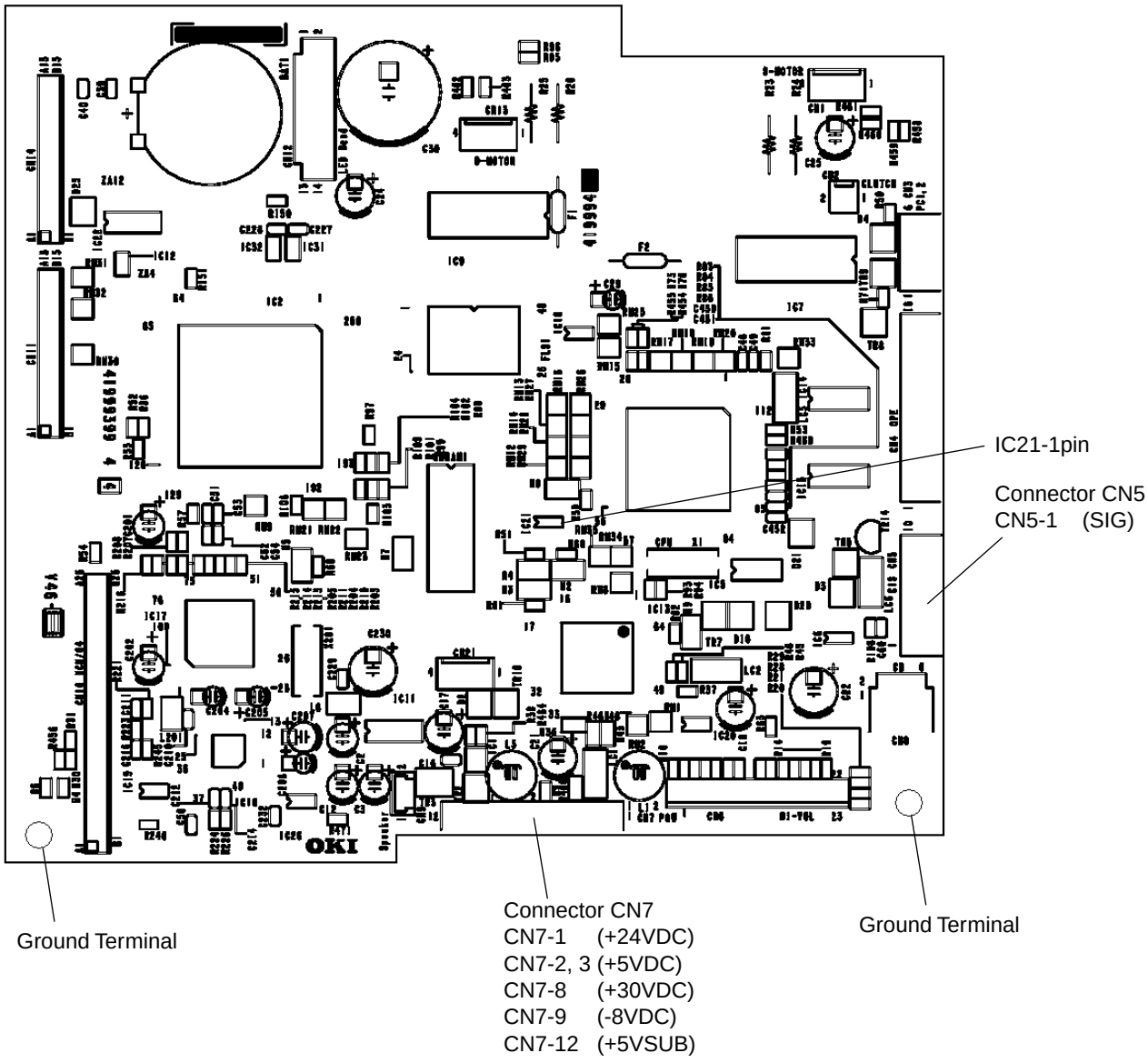


Figure 5.1 Measurement Points on Board-V46

6. CLEANING AND MAINTENANCE

6.1 Replacement of Consumable

The user (or service personnel) is required to replace the following items as consumable parts.

(1) User side

No.	Part name	Expected Use Before Replacement	Reference Item No. in Figure 6.1
1	Toner Cartrige	1,875 sheets/4% duty (ITU-T document sample No.1) (For the second or later cartridge to a new I/D Unit) * The first toner cartridge installed in a new I/D unit will have a decreased yield.	(1)
2	I/D Unit (Image drum unit)	4,500 sheets: 1 page/job, 8,000 sheets: 3 page/job, 10,000 pages/continuous	(2)

(2) Service personnel side

No.	Part name	Expected Use Before Replacement	Reference Item No. in Figure 6.1
1	Fuser Unit	30,000 sheets	(3)
2	Separation Rubber	The Separation Rubber will not require replacement for at least 30,000 documents fed.	(4)

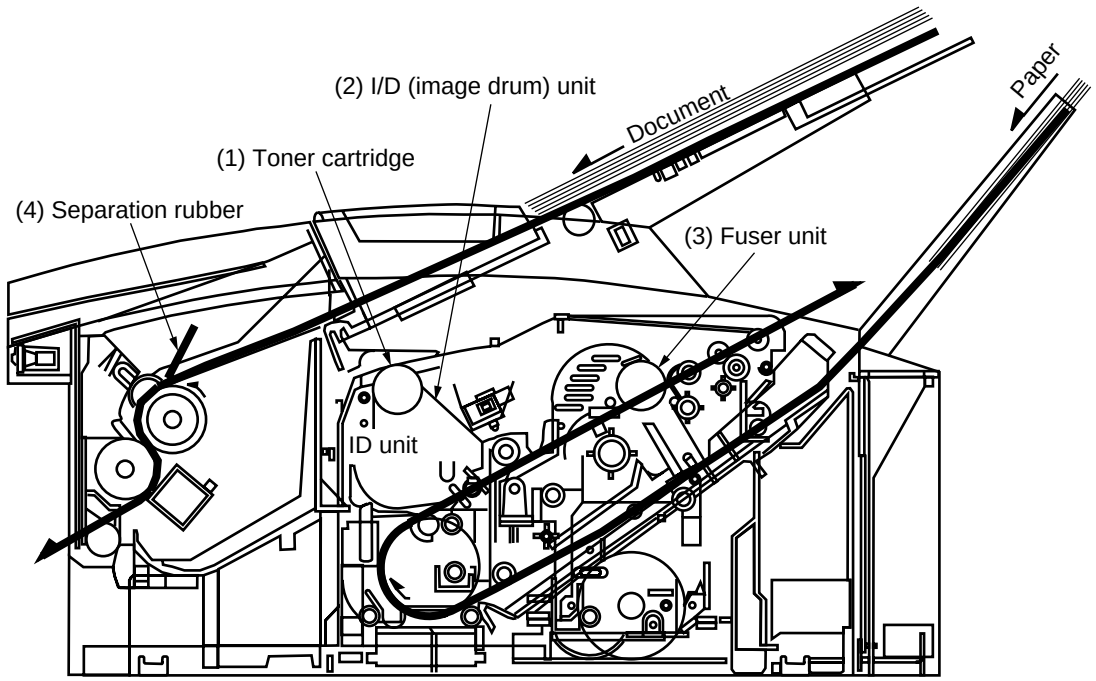


Figure 6.1 Consumable Parts

(3) Others

Table 6.1 Reliability

No.	Item	Specifications
1	Document feeder	Jam occurrence and misfeeds in the automatic document feeder will be less than one in 500 operations for all specified documents.
2	Recording paper feeder	Jam occurrence in the automatic paper feeder will be less than one in 1,500 operations and misfeeds will be less than one in 500 operations for all specified recording paper.
3	MTBF	The MTBF for the overall machine will exceed 3,000 hours of actual operation. The MTBF will be measured at a confidence level of 95% under controlled laboratory conditions. The MTBF will be based on 50% transmit and 50% receive activities.
4	Battery (for RTC)	5 years Lithium battery : Not rechargeable

6.2 Routine Inspection

Basically, the routine inspection of following items is performed about half-yearly (or every one year) after the machine is installed. The description of routine inspection is shown in Table 6.2.

Table 6.2 Routine Inspection

No.	Part name	Expected Use Before Replacement	Reference Item No. in Fig.6.2
1	Roller-scan	Clean with wet cloth.	(1)
2	Roller-ADF	Clean with wet cloth. If the surface of this roller becomes dirty and the dirt causes misfeeding of documents, perform this cleaning.	(2)
3	Contact Image Sensor	Check for accumulation of paper dust, etc. Clean with ethyl alcohol if necessary.	(3)
4	Separation Rubber	Clean with wet cloth. If this rubber is worn out, replace this rubber. (every one year)	(4)
5	LED print head	Clean the surface of the head by moving the tissue paper back and forth several times.	(5)
6	Printer unit	Clean the inside of the printer unit by using wet cloth.	
7	Lubrication	Apply MOLYKOTE EM-30L Greese (Made by Dow corning co., ltd.) oil to the following parts: a. Gears (every one year)	
8	Cleaning	Remove materials that have fallen from outside, if any.	

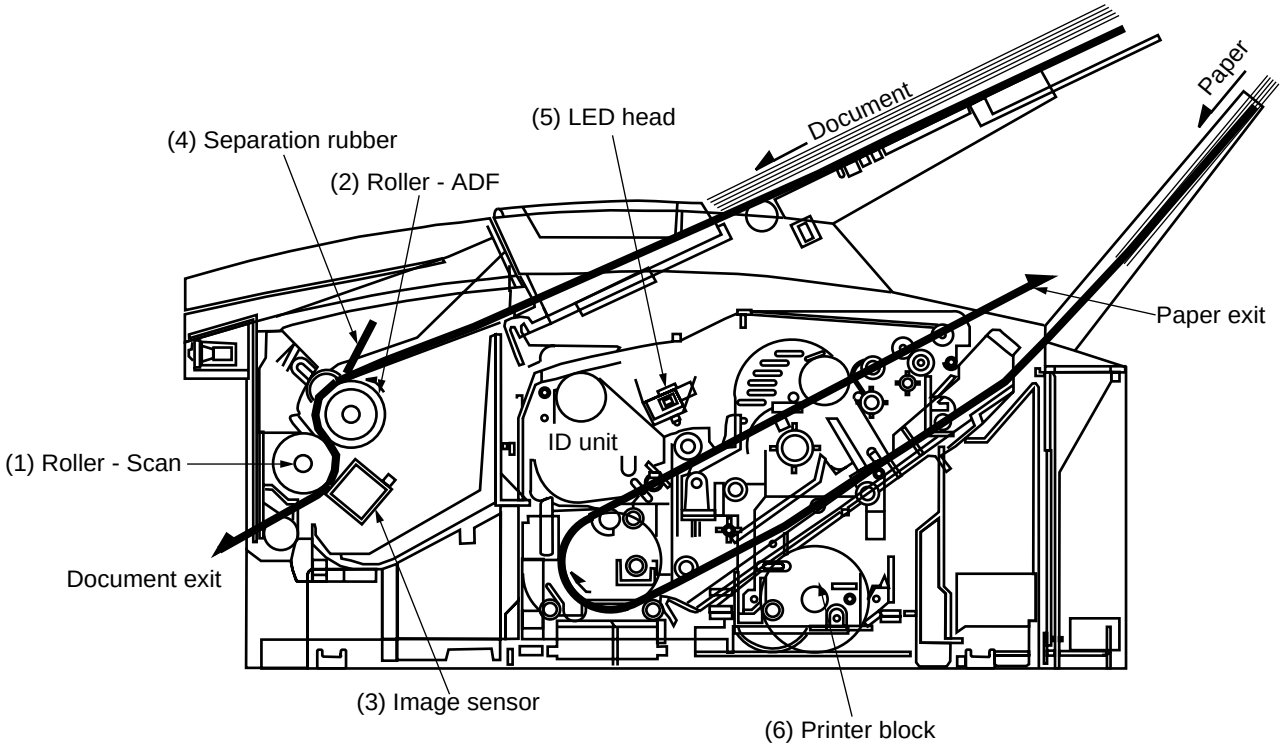


Figure 6.2 Parts of Routine Inspection

6.3 Printer Counter Display/Clear

Note: The fonts displayed on the LCD operation panel may differ from the fonts written this manual.

1. Purpose

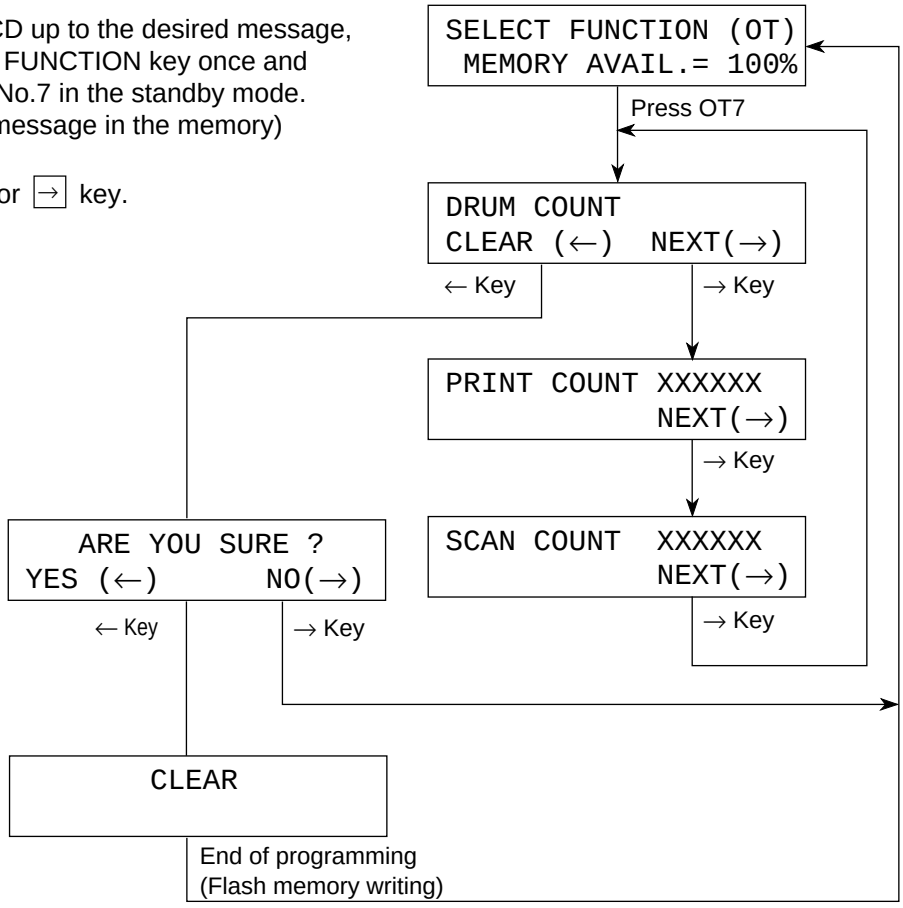
A user can clear the image drum unit and check some of the counters (such as the print counter, scan counter) by using the ← key or → key.

2-1. Procedure

The following shows the case when the service bit has been set OFF & TONER COUNT CLEAR = OFF.

Operations: **The display shows:**

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No.7 in the standby mode. (In case of no message in the memory)
- Press [←] key or [→] key.



Note: Clear Operation

No. of print counter and scan counter (pages) will appear but cannnot be cleared by user.

User can clear only DRUM counter.

After having cleared the drum counter, warning message will be disappeared.

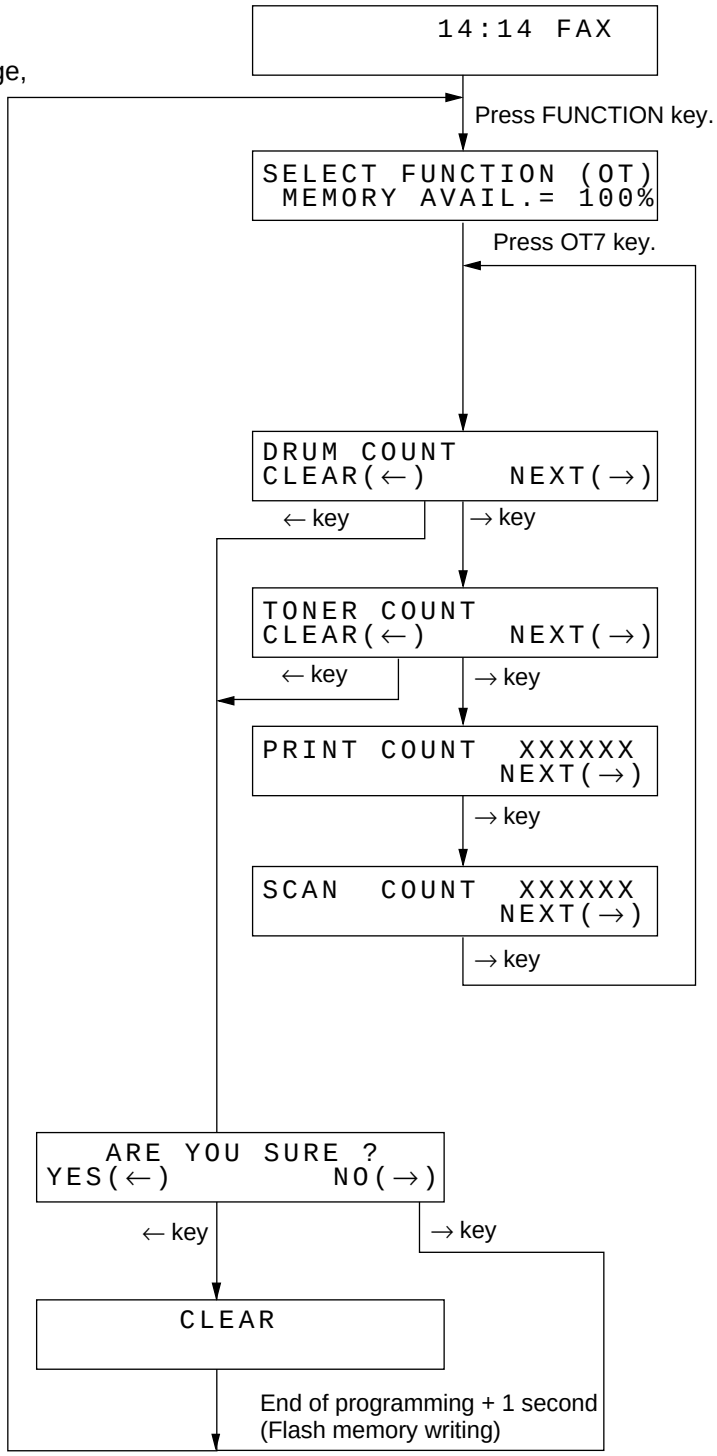
2-2. Procedure

The following shows the case when the service bit has been set OFF & TONER COUNT CLEAR = ON.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 7 in the standby mode. (In case of no message in the memory)
- Press ← key or → key.

The display shows:



Note: Clear Operation

No. of print counter and scan counter (pages) will appear but cannot be cleared by user.
User can clear DRUM counter and TONER counter.
After having cleared the drum counter, warning message will be disappeared.

6.4 Printer Counter Display/Clear

1. Purpose

The service personnel can clear and check the following data:

- Image Drum
- Toner
- Image Drum (Total)
- Print
- Scan

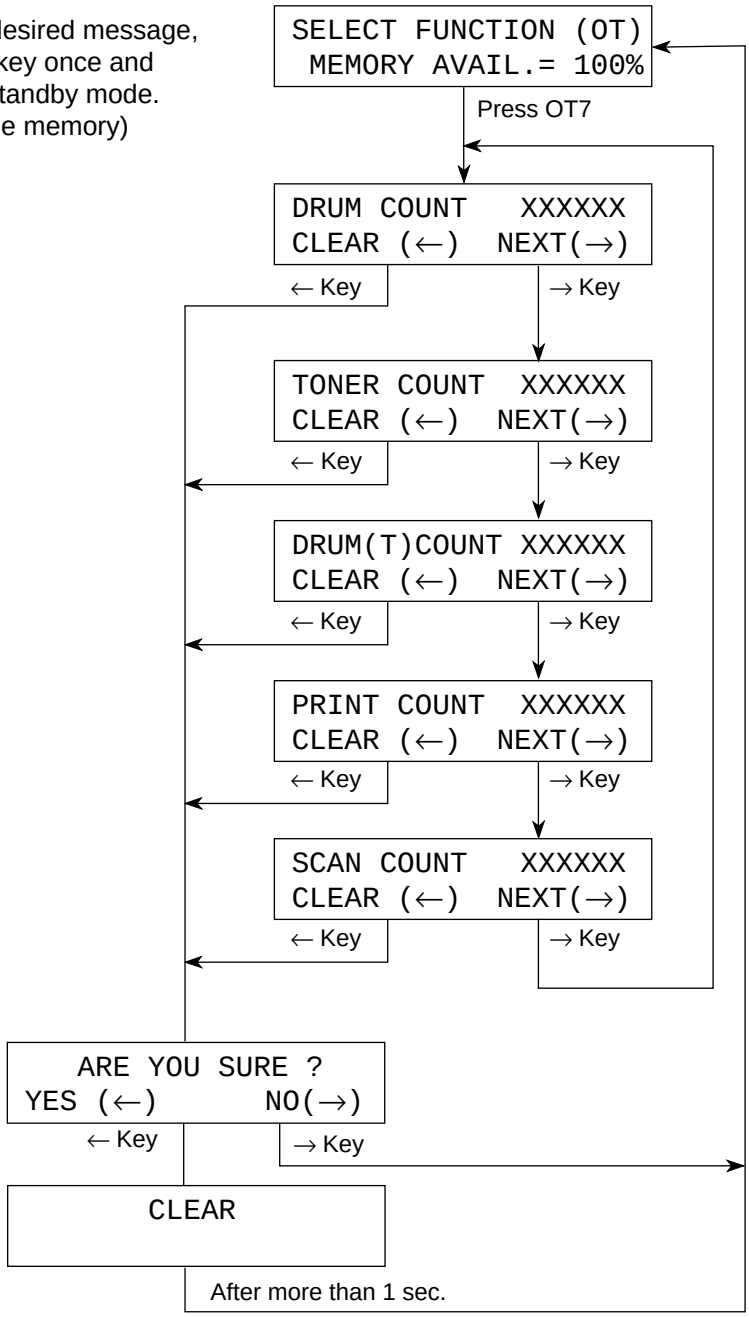
2. Procedure

The following shows the case when the service bit has been set ON.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 7 in the standby mode. (In case of no message in the memory)
- Press [←] key or [→] key.

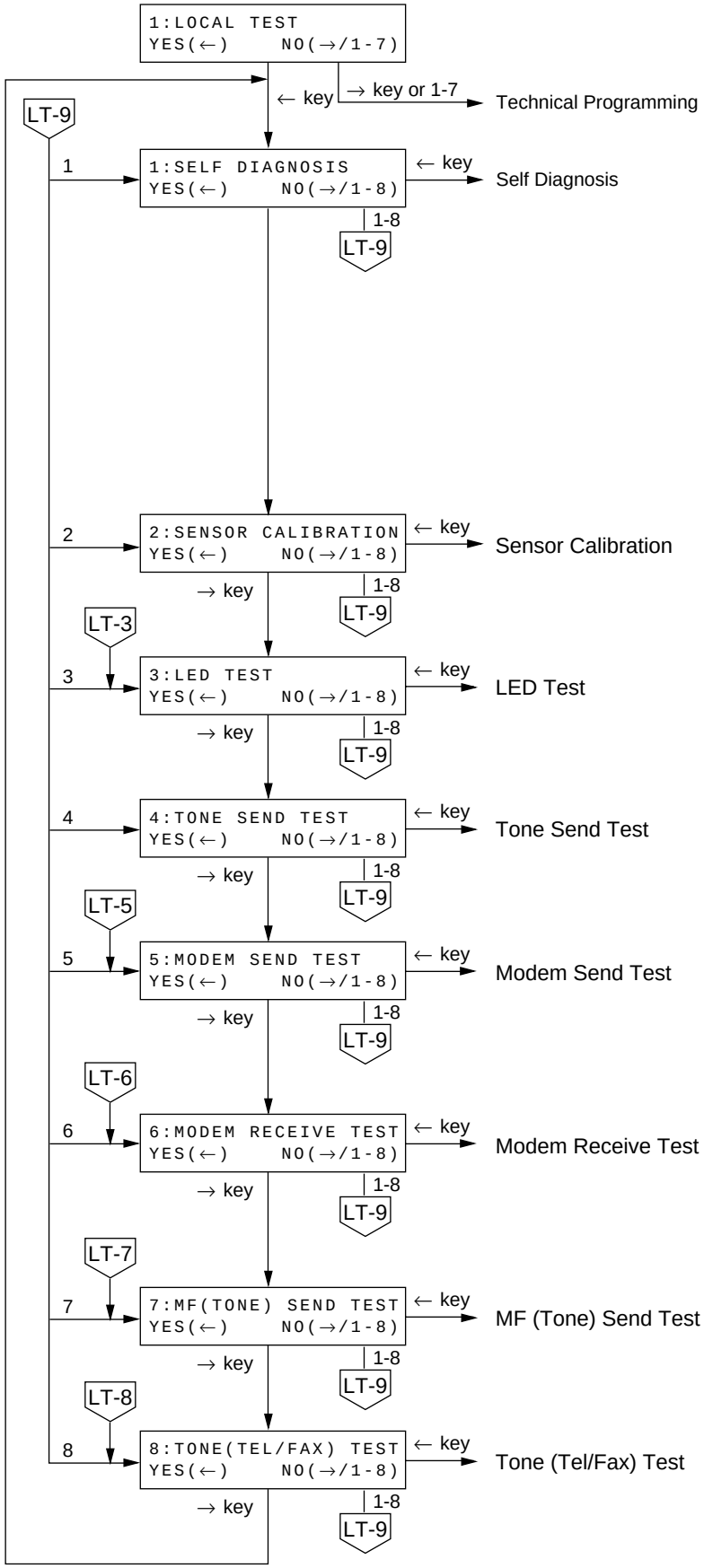
The display shows:



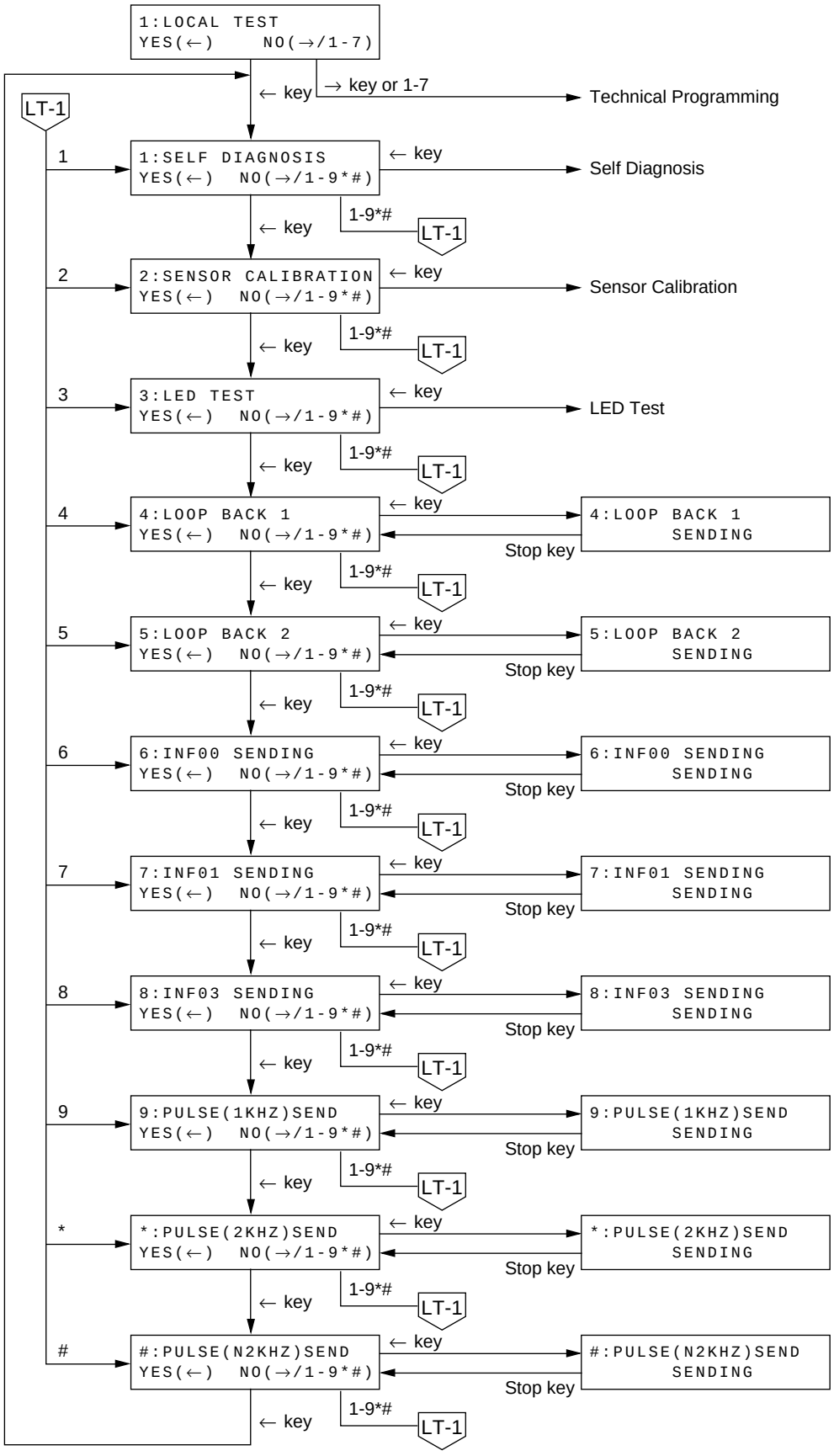
Note: DRUM (T) will be used to know the total in-use life of the machine.

6.5 Local Test

6.5.1 When G4 option board is not installed.



6.5.2 When G4 option baord is installed.



- When G4 option board is installed, the following items can be selected.
  LOOP BACK 1 to PULSE (N2KHZ) send
- These tests are continued till STOP key is pressed.

6.6 Self-diagnosis Test

1. Purpose
To check ROMs, RAMs and printing function.

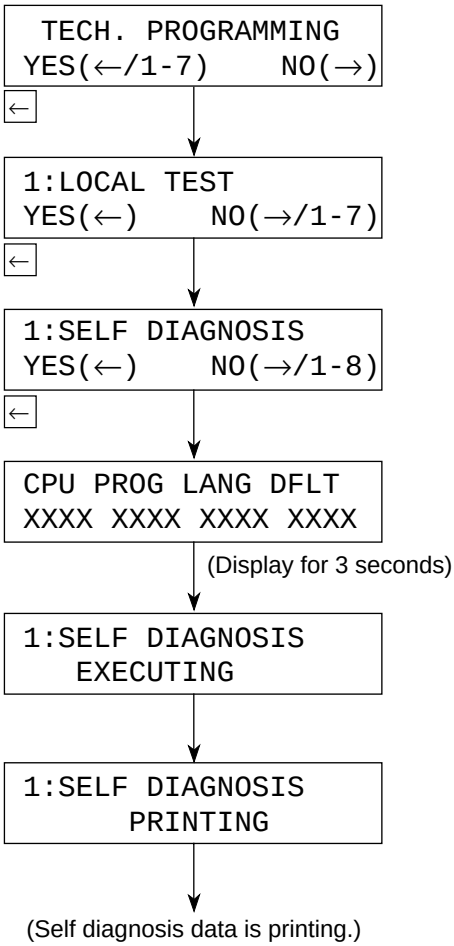
2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and COPY key twice in the standby mode. (In case of no message in the memory)
- Press [←] key.
- Press [←] key.
- Press [←] key to activate self-diagnosis.

(Figure 6.3.1 shows the printed data.)

The display shows:



6.6.1 Self Diagnosis Report

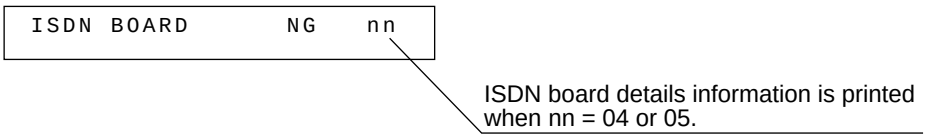
6.6.1.1 Print conditions

1) The following self diagnosis results are always printed.
   - CPU - ROM, FLASH - PROGRAM / LANGUAGE / DEFAULT version read and hush check.
   - CPU-RAM, FLASH - RAM read/write check
   - Image processor LSI RAM check
   - Setting DEFAULT TYPE and reading clock at self diagnosis execution.

2) The following is printed the condition of option provided or not.

*1 Printed only when 1284 option is provided. “MFG:,” “MDL:,” and “DES:” information is printed out of ID character strings of PnP device. Small letters can be printed. The maximum number of each of letters and characters shall be 45.

*2 Printed only when ISDN option is provided.
When performing self diagnosis, ISDN board test is executed and its result (error information at power on is partially adopted) is printed.
The print contents at ISDN error are as shown below.



nn=01: Waiting PC loading
When turning on power, BOOT2 signal from HOST side was in PC loading mode.

nn=02: Board faulty
When turning on power, PROGRAM HASH of ISDN board was no good.

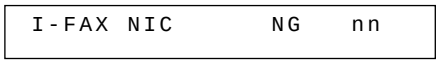
nn=03: Board faulty
Initial sequence between boards was not executed in spite of elapse of 10 seconds after turning on power. (Status window did not obtain normal value.)

nn=04 Board faulty
Initial sequence of ISDN LSI was not executed when turning on power. (No response to command, Response no good)

nn=05: ISDN LSI faulty
ISDN LSI test function (ROM/RAM test, loop test) resulted no good.

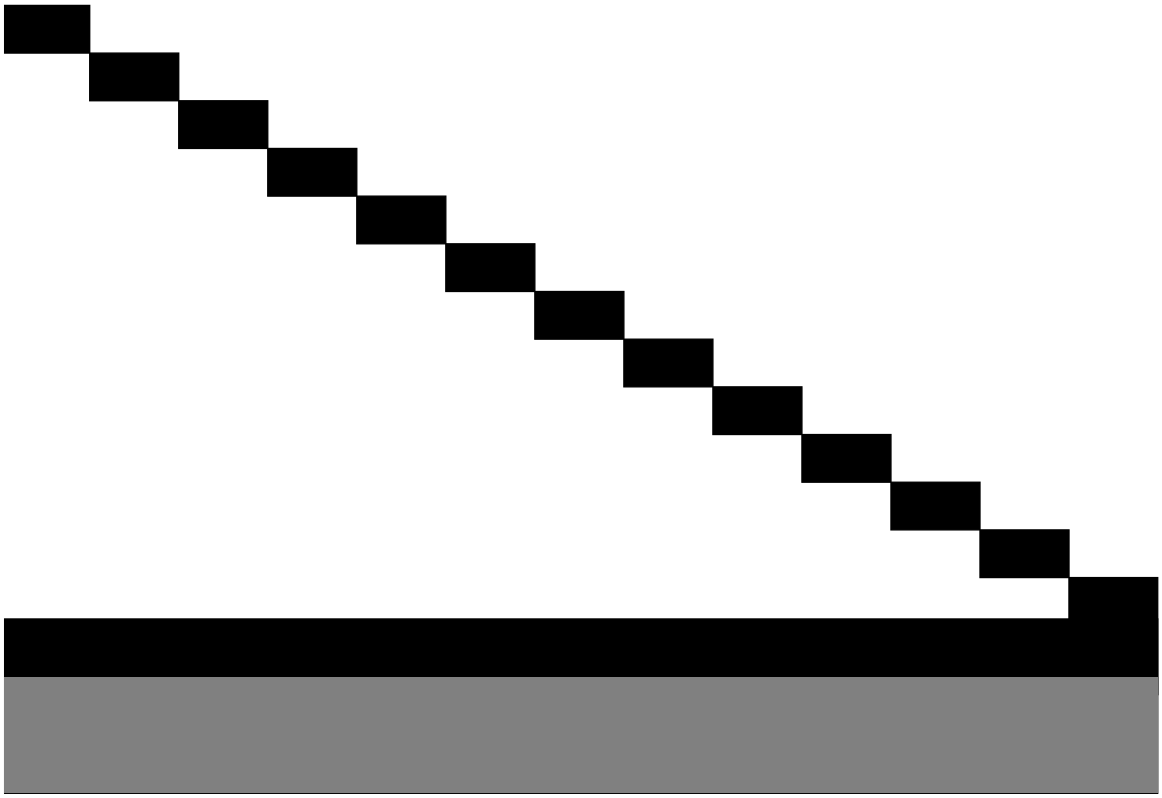
* Figure 6.3 shows a printed sample.

*4 Indicate when an I-FAX NIC option is installed.
Perform an I-FAX NIC option test upon self-diagnosing and indicate the results.
The indications upon generating an I-FAX NIC option error are listed below.



*5 Indicate when installed with an I-FAX NIC option. (Separate versions by inserting a hyphen (-) in between.)
Indicate the F/W version for an I-FAX NIC option in six digits.
Indicate the boot block version for an I-FAX NIC option in four digits.
Indicate the hardware version for an I-FAX NIC option in three digits.
Only the set value upon an I-FAX NIC option board error is to be blank.

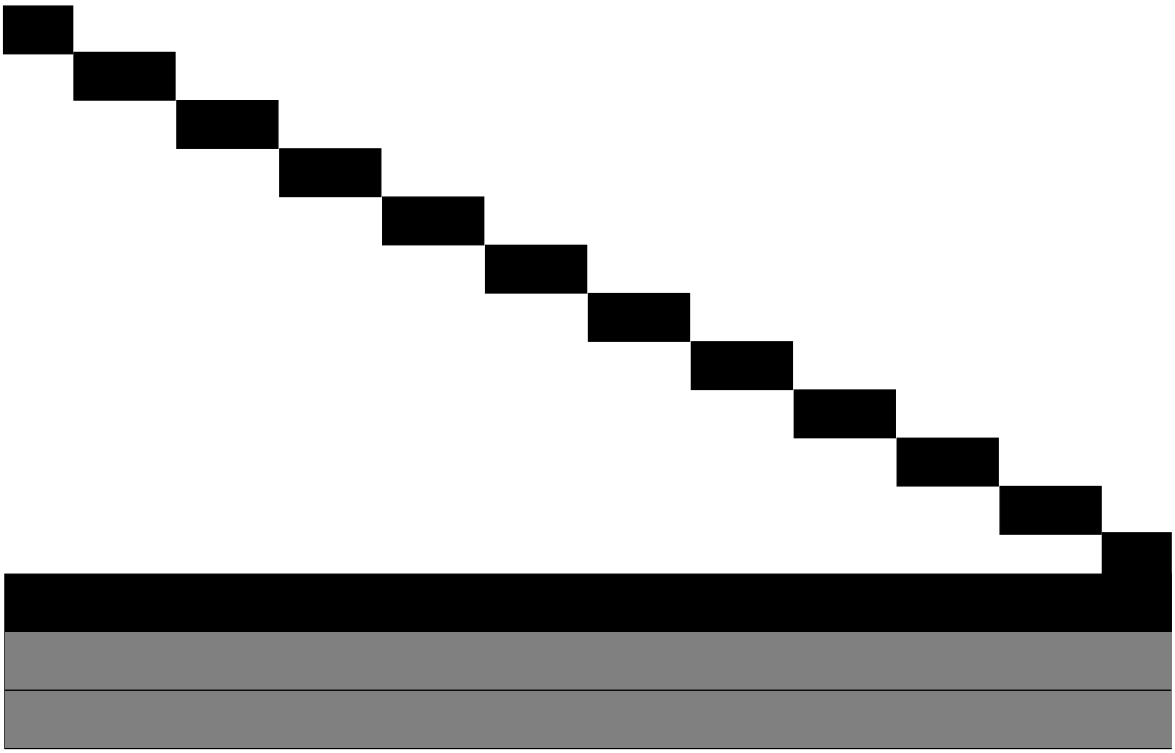
*6 Indicate the MAC address when installed with an I-FAX NIC option.
Only the set value upon an I-FAX NIC option board error is to be blank.



a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

```
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
LANGUAGE  VERSION  aaaa
          HASH     OK   hhhh
DEFAULT   VERSION  aaaa
          HASH     OK   hhhh
RAM1               OK
RAM2               OK
DEFAULT TYPE       01   03/03/2002  12:00
MODEM     VERSION  hhhh
1284 BOARD
DEVICE ID          MFG:OKI DATA CORP;            *1
                   MDL:FX-046VP;                 *1
                   DES:OKI FX-046VP;             *1
OPT-RAM   4M       OK
ISDN BOARD         OK                            *2
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
RAM       2M       OK
DPRAM     2K       OK
```

Figure 6.3.1 Self-diagnosis Data (Installed with a 1284 option and G4 option.)



```
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
LANGUAGE  VERSION  aaaa
          HASH     OK   hhhh
DEFAULT   VERSION  aaaa
          HASH     OK   hhhh
RAM1               OK
RAM2               OK
DEFAULT   TYPE     01   11/01/2002  12:00
MODEM     VERSION  hhhh
I-FAX NIC          OK   nn                      *4
PROGRAM   VERSION  aaaaaa-nnnn-nnn              *5
MAC ADDRESS        00.C0.26.39.23.38           *6

OPT-RAM   4M       OK
ISDN BOARD         OK
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
RAM       2M       OK
DPRAM     2K       OK
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

Figure 6.3.2 Self-diagnosis Data (Installed with a I-FAX NIC option and G4 option.)

6.7 Sensor Calibration Test

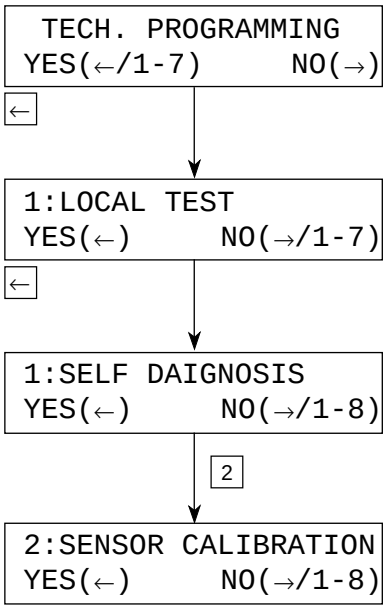
1. Purpose

To adjust the linearity of output levels of contact image sensor.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and COPY key twice in the standby mode. (In case of no message in the memory)
- Press ← key.
- Press ← key.
- Enter "2".

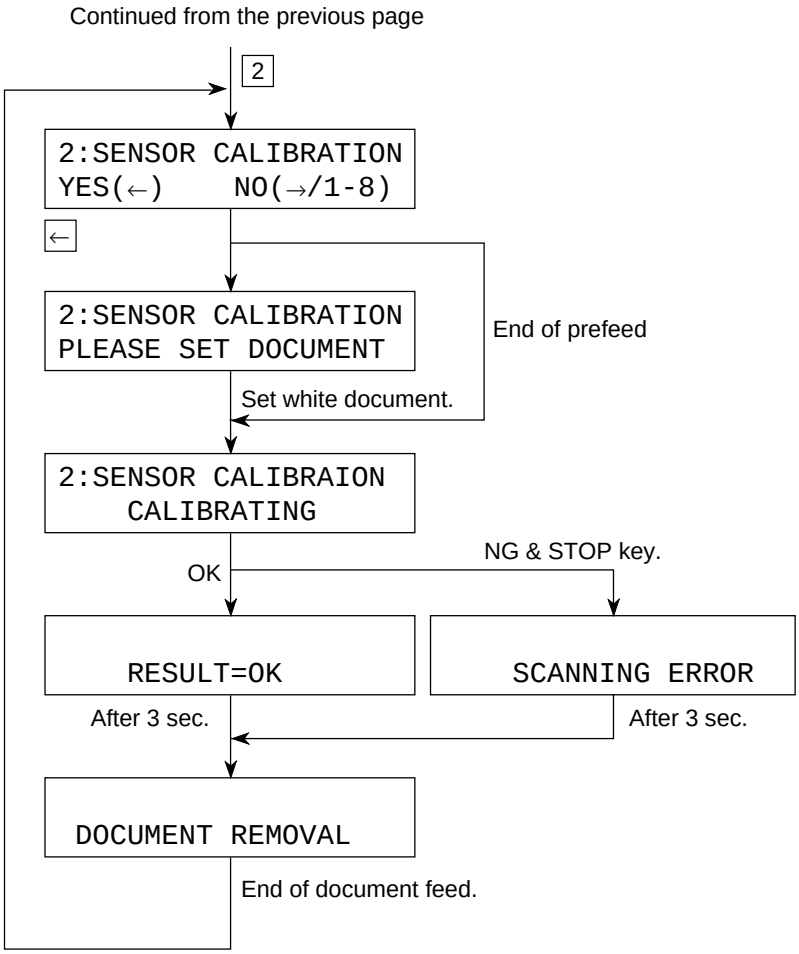
The display shows:



Operations:

- Enter "2".
- Press [←] key.
- Load document(s).
  For adjustment of levels, use white plain bond paper(s) of NA Letter or A4 size.
- Observe and check the document feed operation.
  Check that the followings do not occur:
  Document skew.
  Multiple document feeding.
  No feeding.

The display shows:



Note: After adjustment of levels, check the copy quality by copying test charts or documents.

6.8 LEDs Test

1. Purpose

To check all LEDs on operation panel by lighting.

2. Procedure

Operations: **The display shows:**

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and COPY key twice in the standby mode. (In case of no message in memory)

```
TECH. PROGRAMMING ?
YES(←/1-7)     NO(→)
```

- Press [←] key.

```
1:LOCAL TEST
YES(←)     NO(→/1-7)
```

- Press [←] key.

```
1:SELF DIAGNOSIS
YES(←)     NO(→/1-8)
```

- Enter "3".

[3]

```
3:LED TEST
YES(←)     NO(→/1-8)
```

- Press [←] key.

```
3:LED TEST
      TESTING
```

- Observe and check that LEDs are blinking.
  - All LEDs will be sequentially turned on for one second in the following order.

(Start)

→ ALARM → DARK → NORMAL → LIGHT → STD → FINE →
all LED off ← all LED on ← PHOTO ← EX.FINE ←

1 second interval.

- After the checking, press STOP key.

6.9 Tone Send Test

1. Purpose

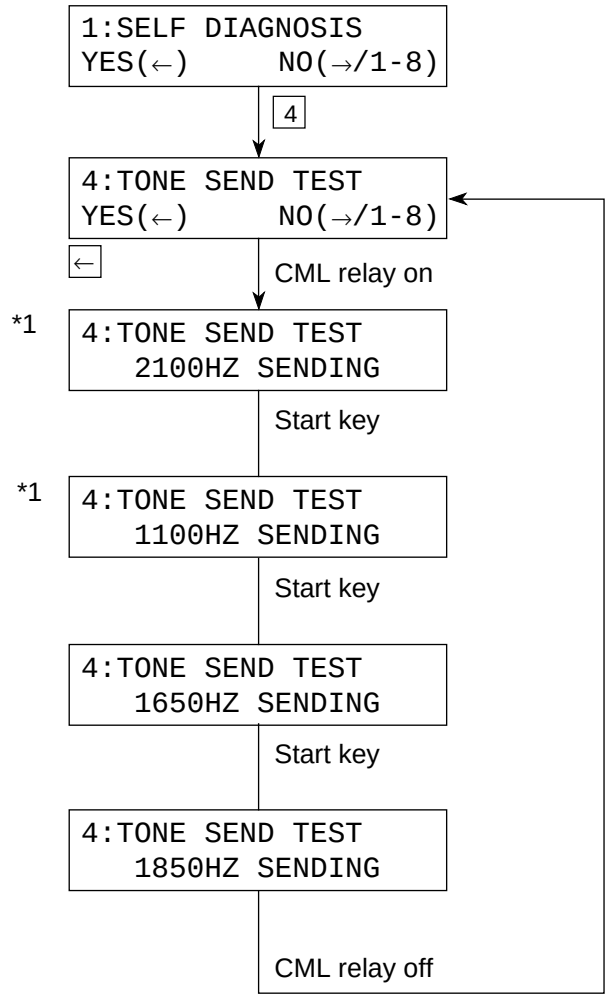
To send the G3 tonal frequencies to the line.

2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)
- Enter "4".
- Press [←] key.
- After the checking, press STOP key or end of the transmission.

The display shows:



*1: When indicating "2100Hz, 1100Hz, 1650Hz or 1850Hz SENDING", these tests are continued till START key or STOP key is pressed.

6.10 High-speed Modem Send Test

1. Purpose

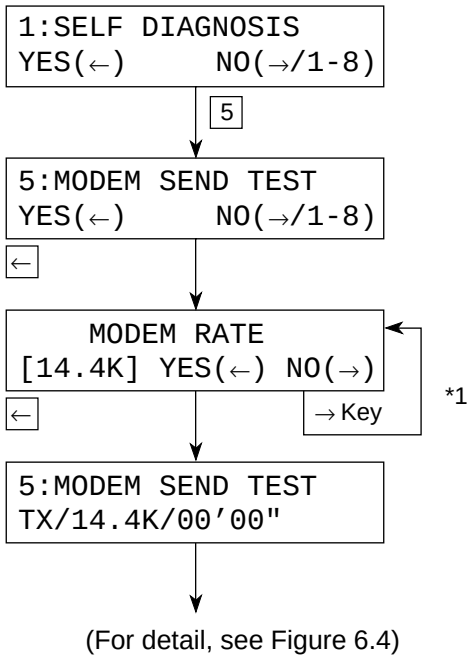
To check the telephone line quality in combination with a remote station programmed to the high-speed modem receive test mode.

2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)
- Enter "5".
- Press [←] key.
- Set MODEM rate by [→] key.
- Press [←] key.
  All zero data will be continuously sent.
- After the test, press STOP key.

The display shows:



(For detail, see Figure 6.4)

*1: → 33.6K → 28.8K → 14.4K → 12.0K → 9.6KT (V.17) → 7.2KT (V.17) →
← 0.3K ← 2.4K ← 4.8K ← 7.2K (V.29) ← 9.6K (V.29)

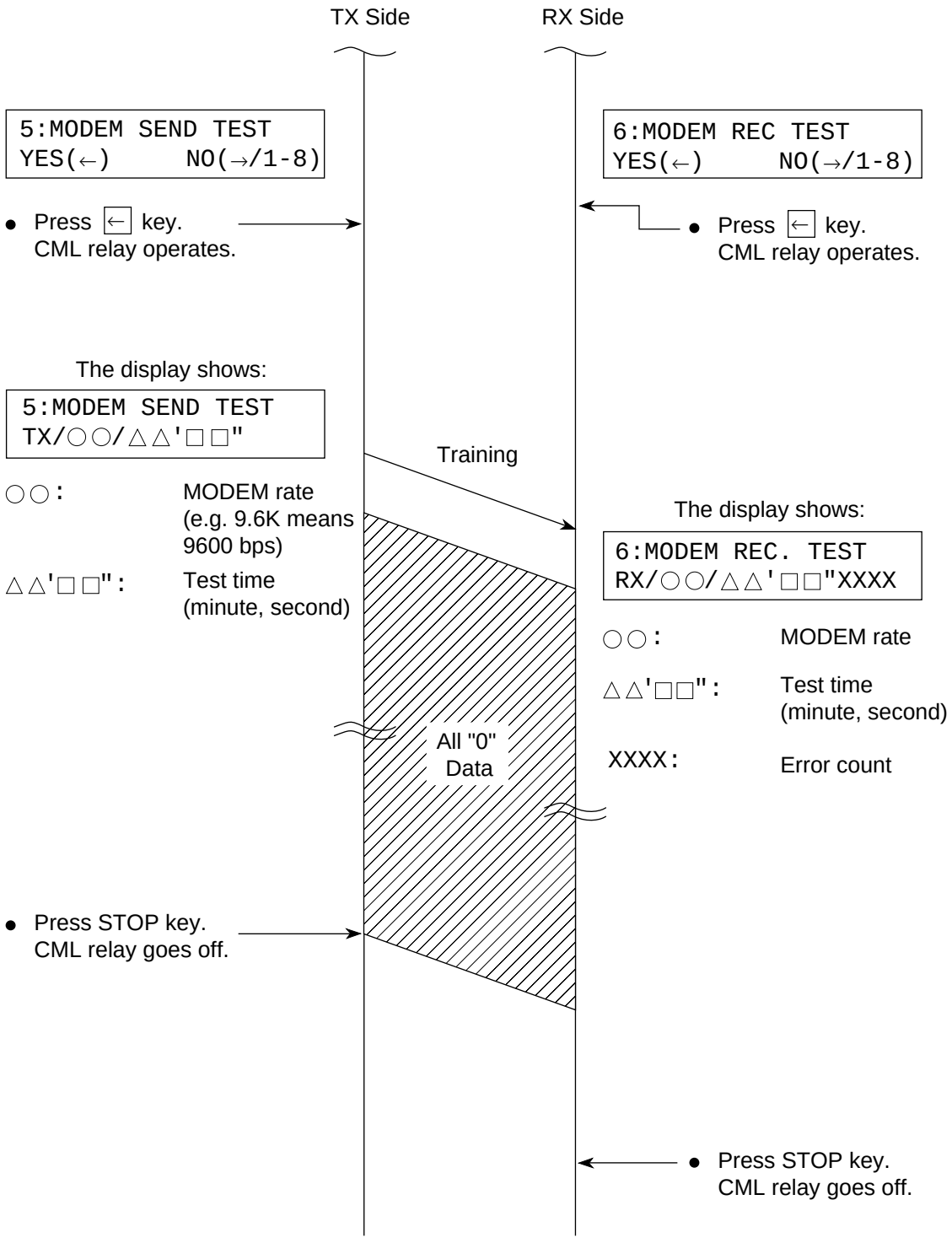


Figure 6.4 High-speed Modem Send and Receive Test

6.11 High-speed Modem Receive Test

1. Purpose

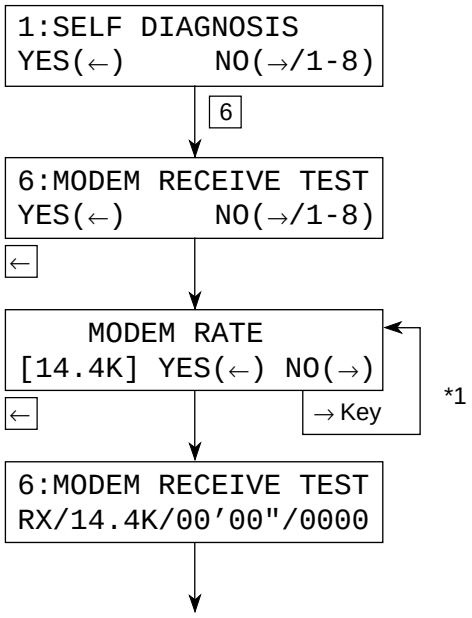
To check the telephone line quality in combination with a remote station programmed to the high-speed modem send test mode.

2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)
- Enter 6.
- Press [←] key.
- Set MODEM rate by [→] key.
- Press [←] key.
- After the test, press STOP key.

The display shows:



(For detail, see Figure 6.4)

*1: → 14.4K → 12.0K → 9.6KT (V.17) → 7.2KT (V.17) → 9.6K (V.29) → 7.2K (V.29) → 4.8K → 2.4K →

6.12 MF Send Test

1. Purpose

To send the multi-frequencies of tone dialling to the line.

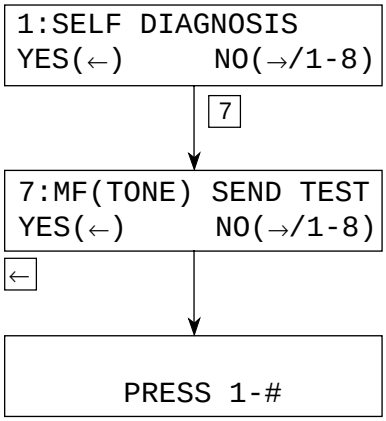
2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)
- Enter 7.
- Press [←] key.
- Press 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, * or # key.
  MF tone corresponding to the key pressed will be sent until the next key is pressed.
- After the test, press STOP key.
  Frequencies of MF tones are as follows:

1	697 Hz/1209 Hz
2	697 Hz/1366 Hz
3	697 Hz/1477 Hz
4	770 Hz/1209 Hz
5	770 Hz/1366 Hz
6	770 Hz/1477 Hz
7	852 Hz/1209 Hz
8	852 Hz/1366 Hz
9	852 Hz/1477 Hz
0	941 Hz/1366 Hz
*	941 Hz/1209 Hz
#	941 Hz/1477 Hz

The display shows:

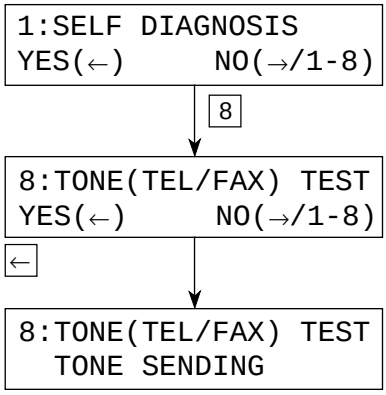


6.13 Tone (TEL/FAX)

1. Purpose

To check the pseudo-ring back tone of TEL/FAX automatic switching.

2. Procedure

Operations:	The display shows:
• To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)	
• Enter 8.	
• Press [←] key.	
• After the test, press STOP key.	

6.14 Protocol Dump Data Printing

1. Purpose

To analyze the transmitted/received G3 protocol signals.

2. Procedure

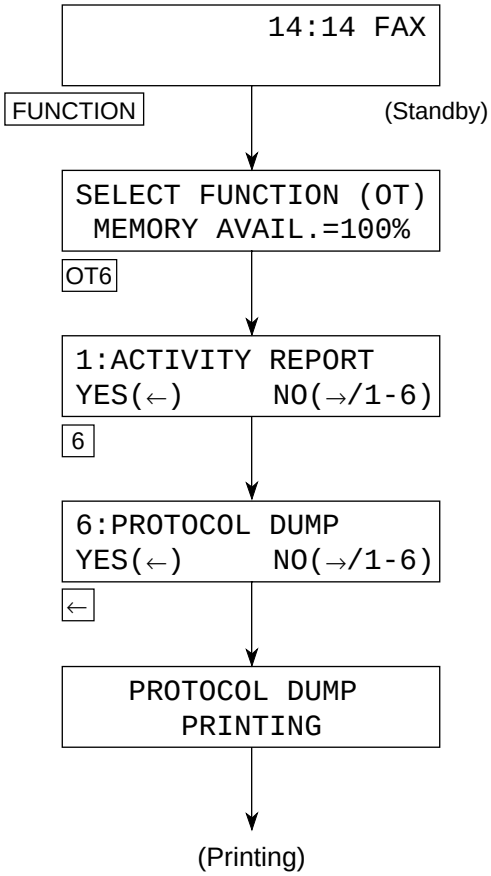
- Manual print-out of the last communication.

(a) Manual print-out

Operations:

- Press SELECT FUNCTION key, provided that the service bit is ON.
- Press one-touch key No.6
- Enter 6.
- Press ← key.

The display shows:



6.14.1 G3 Protocol Dump

Purpose:
To allow the serviceman to obtain a list of protocol signals transferred between the transmitter and receiver.

Print conditions:
- Modem trace information for each TX/RX is printed.
- "00" is printed always since the received SID on the 2nd page is invalid.

Method:
The report will be manually printed out for maintenance purpose. If the previous communication is G3, G3 communication protocol dump is printed out. If it is G4, the G4 communication protocol dump is printed.

1. Title of the report
2. Date and time when the report was printed
3. Sender ID
4. Date of communication
5. Time of communication
6. One message transmission/reception time
7. Identification of remote station
   • CSI/TSI, Personal ID/or telephone number
8. Mode of transmission/reception according to ITU-T designation
9. Total number of pages in communicaiton
10. Identification of the result of the communication
11. Service code
12. TX: DIS/DTC/DCS/NSF/NSS/NSC
13. Transmitted telephone number
14. Transmitted SEP/SUB
15. Transmitted SID
16. Common information of ITU-T V.34 TX/RX
17. Modem trace
18. RX: DIS/DTC/DCS/NSF/NSS/NSC (page 2)
19. Received telephone number
20. Received SEP/SUB (page 2)
21. Received SID (page 2)
22. Common information of ITU-T V.34 TX/RX (page 2)

G3 Protocol Dump Image

PROTOCOL DUMP P1

```
                                                                12/24/2002  19:00
                                                                ID=OKI TAKASAKI


       DATE      TIME      S,R-TIME   DISTANT STATION ID       MODE      PAGES      RESULT

       12/24     18:56      00'33"    12345678901234567890123 4  TX         002     OK    0000

FCF
TX |          NSS     PPS_MPS   PPS_EOP     DCN
RX | NSF  DIS     CFR         MCF         MCF

TX |
RX |

TX |
RX |

TX |
RX |

TRANSMITTED FRAME

DIS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DTC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DIS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
NSF
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSS
FF C8 C4 00 00 84 80 30 40 E4 10 40 B8 39 20 0C 0C 0C 0C 30 82 4A AA 82 42 92 12 CA 04 92 D2 F2
80 40 80 10 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
CSI/CIG/TSI
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SEP/SUB
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SID
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
V34
CM              JM
00 00 00 00     00 00 00 00

SYMBOL RATE(SPS)             =
DATA SIGNALLING RATE(BPS)    =

MODEM TRACE
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

Figure 6.5 (1/2) Protocol Dump Report (G3)

PROTOCOL DUMP P2

12/24/2002 19:00
ID=OKI TAKASAKI

```
RECEIVED FRAME

DIS
FF C8 01 00 73 17 22 00 00 00 00 00 00 00 00 00 00 00 00
DTC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DCS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
NSF
FF C0 04 00 00 84 80 08 40 F4 10 40 F9 7D 20 0C 0C 0C 0C 90 F2 52 72 F2 12 04 92 D2 F2 80 F0 80
40 80 50 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
CSI/CIG/TSI
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SEP/SUB
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SID
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
V34
CM              JM
00 00 00 00     00 00 00 00
```

Figure 6.5 (2/2) Protocol Dump Report (G3)

6.14.2 G4 Protocol Dump

Purpose:
To allow the serviceman to obtain a list of protocol signals transmitter and receiver.

Method:
The report will be manually printed out for maintenance purpose.
If it is G4, the G4 communication protocol dump is printed out.

1. Title of the report
2. Date and time when the report was printed
3. Sender ID
4. Date of communication
5. Time of communication
6. One message transmission/reception time
7. Identification of remote station
8. Mode of transmission/reception according to ITU-T designation
9. Total number of pages in communicaiton
10. Identification of the result of the communication
11. Service code
12. D channel
13. B channel
14. COMMN MODE
15. COMMN SPEED
16. FLOW CONTROL PARAM.
17. TID
18. SETUP
19. DISC
20. CR/CN, CA/CC, CQ/CI, RQ/RI, SQ/SI (page 2)
21. TBR/TCC/TCR/TCA (page 2)
22. CSS (page 2)
23. RSSP/RSSN (page 2)
24. CDCL (page 2)
25. RDCLP (page 2)
26. CDS (page 2)
27. CDUI (page 2)

Protocol Dump

The printing image is as follows:

PROTOCOL DUMP P1

08/25/2002 19:00
ID=OKI TAKASAKI

DATA	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
04/19	14:49	00’07"	OKI SHIBAURA(6412)	TX-G4	02	OK	0000

Dch.

```
TX | SETUP                      CONN-ACK +Bch+ DISC    REL-C
RX |      STATUS SETUP-ACK CONN          +Bch+     REL

TX |
RX |
```

Bch.

```
TX | SABM   SQ   CR   TCR   CSS    CDCL     CDS CDUI CDPB     CDUI CDPB      CDUI CDPB     CDUI
CDUI
RX |      UA   SF   CC    TCA   RSSP    RDCLP             RDPBP          RDPBP           RDPBP

TX | CDE     CQ   DISC
RX |    RDEP   CF     UA

TX |
RX |

TX |
RX |
```

COMMN MODE
T.90

COMMN SPEED
64 kbps

FLOW CONTROL PA RAM.
2048(SPS)/7(SWS)/2048(RPS)/7(RWS)

TID
081-0273242117 =OKITAKASAKI

SETUP
08 01 05 05 04 02 88 90 6C 02 00 80 70 0B 80 30 32 37 33 32 38 30 30 30 31 7C 03 88 90 A9 7D 02
91 A1 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

DISC
45 16

Figure 6.7 (1/2) Protocol Dump P1 (G4)

PROTOCOL DUMP P2

```
CR/CN
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CA/CC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CQ/CI
00 00 00 00 00

RQ/RI
00 00 00 00 00

SQ/SI
00 00 00 00 00

TBR
 00

TCC
00

TCR
09 E0 00 00 00 01 00 C0 01 0B 00 00 00 00 00 00

TCA
09 D0 00 01 00 01 00 C0 01 0B 00 00 00 00 00 00

CSS
0D 6F 01 2A 0A 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 37 2D 30 38 2D 32 37 2D 31 34 2D 34 34 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 2F 00 01 79 00 E0 1C C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 C4 04
30 30 30 30 E1 0B E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RSSP/RSSN
0E 69 01 2A 09 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 38 2D 30 36 2D 30 32 2D 31 33 3A 34 36 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 29 00 01 79 00 E0 16 C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 E1 0B
E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

CDCL
3D 58 12 01 3C C1 4D A4 4B 80 01 02 81 01 00 A2 3C A2 32 30 08 80 02 26 C0 81 02 36 CE 30 08 80
02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C 30 08 80 02 2E 23 81 02 41 25 30 08 80 02 36
CE 81 02 4D 80 A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0 01 01 E8 04 00 01 49 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RDCLP
3E 40 C1 3E A4 3C 80 01 02 81 01 00 A2 25 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30 08 80 02 2F 6C
81 02 43 2C 30 08 80 02 2F 6D 81 02 43 2C A4 03 8B 01 04 E4 0D E0 06 02 01 02 02 01 03 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDS
2D 40 29 03 30 30 31 C1 39 A4 37 80 01 02 81 01 00 A2 28 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30
08 80 02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDUI
01 00 A2 03 02 01 00 A2 1B 02 01 02 31 16 A4 08 80 02 26 C0 81 02 36 CE A6 05 A1 03 82 01 01 E9
03 C0 01 00 A3 80 31 06 A2 04 80 02 06 C0 24 80 04 82 07 90 01 01 00 00 00 00 00 00 00 00 00 00
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

Figure 6.7 (2/2) Protocol Dump P2 (G4)

6.15 System Reset

1. Purpose

To clear or initialize the following data:
(a) Location data
(b) Configuration data (default)

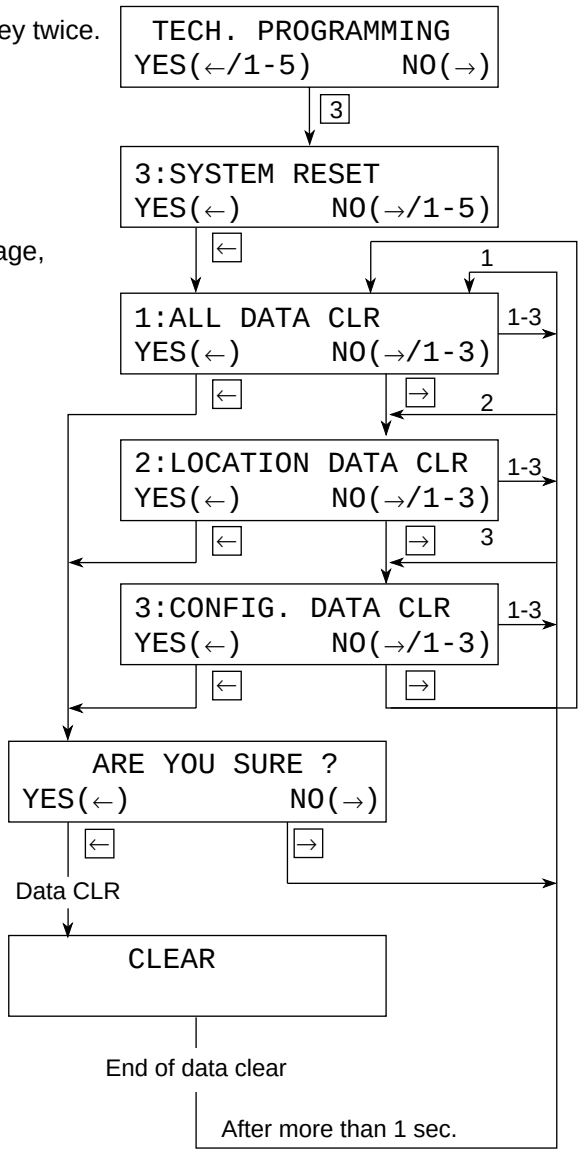
2. Procedure

Operations:

- Press SELECT FUNCTION key, COPY key twice. (In case of no message in the memory)
- Enter 3.
- To bring the LCD up to the desired message, press ← key and → key.

Note: ALL DATA CLEAR is to clear of initialize (a) and (b).

The display shows:



6.16 Service Codes

1) The service code can be printed on Activity Report to recognize the result of each communication.

2) The activity report indicates the code ”0000", should a communication terminates on normal status as a service code.

3) The activity report indicates one of the codes of “90XX”, should a communication terminates on abnormal status, as an error code.

4) Besides the above codes of “90XX”, the following codes are prepared for identifying an abnormal status in details.

-21XX: For error codes in Group 3 transmission phase B
-29XX: For error codes in Group 3 reception phase B
-39XX: For error codes in Group 3 reception phase C
-41XX: For error codes in Group 3 transmission phase D
-49XX: For error codes in Group 3 reception phase D
-90XX: Common error codes
-AEXX: ISDN Common error codes
-BBXX: ISDN Dch layer 2
-BAXX: ISDN Dch layer 3
-BCXX: ISDN Bch layer 2
-B2XX: ISDN Bch layer 3
-B7XX: ISDN Bch layer 4
-B9XX: ISDN Bch layer 5
-B8XX: ISDN Bch layer 6

6.16.1 G3 Service Code List

Table 6.3 (1/3) Service Codes List

Code	Description
0000	Successful end of communication.
1080	STOP key has been pressed while calling a remote fax.
10A2	Busy tone detected.
14C0	Dial tone not detected.
14C1	Line current not detected.
14C2	Calling-and-waiting for line connection time out.
14C3	Dialling limit time out.
14D0	DTMF tone “D” is received from the Fax2Net Server.
14D1	Wait time out upon DTMF tone “A” is not received from the Fax2Net Server.
14D2	Wait time out upon DTMF tone “B” or “D” is not received from the Fax2Net Server.
21A0	Received signal other than DIS/DTC.
21A1	Contents of received DIS/DTC are faulty.
21A3	Each time there is no response from the receiver for sending TCF three times.
21A4	TCF fall back is not possible.
21A5	Received signal other than the desired signal in response to sending TCF.
21B0	Transmitter tried to transmit by confidential transmission function but the remote fax has not the capability of confidential reception.
21B1	Transmitter tried to transmit by Broadcast Initiate function but the remote fax has not the broadcast capability.
21C0	In Closed Network setting, TSI/CIG/CSI is either not received or, if received, it is not authorized one.
21E0	Contents of CM/JM are faulty at transmission side.
21E1	Phase 2 time out at transmission side.
21E2	Phase 3 time out at transmission side.
21E3	Training time out of phase B control channel at transmission side.
29B6	In Confidential Reception, the mail box specified by transmitter is not set up and open.
29B7	In Relay Broadcast Reception, the specified group number is erroneous.

Table 6.3 (2/3) Service Codes List

Code	Description
29C1	In closed Network setting, TSI/CSI is either not received or, if received, it is not authorized one.
29E0	Contents of CM/JM are faulty at receive side.
29E1	Phase 2 time out at receive side.
29E2	Phase 3 time out at receive side.
29E3	Training time out of phase B control channel at receive side.
29F1	In Relay Broadcast Reception, the relay password is unmatched.
39A0	The number of continuous-error lines have exceeded the specified limit.
39A1	The number of random-error lines have exceeded the specified limit.
39B0	Memory Overflow has occurred while receiving in memory.
39B1	Memory Overflow occurred during Confidential Reception.
39B2	Memory overflow occured during Relay Broadcast Reception.
39C0	DECODER hardware error. (cannot reproduce picture)
39C1	DECODER hardware error. (cannot detect end of picture)
41A0	There was no response each time in response to the three post commands.
41A6	Received signal other than the desired signal in responce to the post command.
41A9	Fall back in Phase C is not possible.
41C8	T5 time out.
41CE	Received negative signal in response to the post command.
41E0	Control chanel data. Time out in Phase D.
49CC	Received signal other than the desired signal in response to RNR.
49CD	Command not received in response to RNR.
49CF	In Relay Broadcast Reception, reception is interrupted due to defective image quality.
49E0	Data time out of
49E1	Fall back in Phase C is not possible.
60A0	Broadcast completed.
6803	DCN received in response to NSF/DIS without sending a single picture.
9080	Pressed STOP key.
9081	T1 time out.
9082	T2 time out.

Table 6.3 (3/3) Service Codes List

Code	Description
9083	T3 time out.
9084	No recording paper.
9087	Document jam.
9088	60-minute or 70-minute time out.
9089	Document length has exceeded its maximum limit.
908E	Recording paper jam.
9090	Received DCN.
909D	Telephone number to be called to the Fax2Net is the wrong number.
90B1	Picture memory hash error.
90C1	Document removed prior to transmission.
90C6	Normal or error-free lines not received for 13 seconds.
90C7	Error frame protocol received.
90D4	Hardware error in transmission system. (response of modem not detected)
90D5	ENCODER error. (Picture storage fault)
90F0	Option (2'nd tray) error.
90F1	Fan motor error.
90F2	Fuser error.
90F3	Recording paper size error.
90F4	Cover open.

6.16.2 G4 Service Code Lists

Table 6.4 (1/3) G4 Service Code Lists

Classification	Code	Description
Dch layer 2	BB02	LSI NG
	BB05	TEI release by network
	BB06	TEI verification procedure failure
Dch layer 3	BA01	Unallocated (unassigned) number
	BA02	No route to specified transit network
	BA03	No route to destination
	BA06	Channel unacceptable
	BA07	Call awarded and being delivered in an established channel
	BA10	Procedure sequence error, Line disconnected during in-band procedure
	BA11	User busy
	BA12	No user responding
	BA13	No answer from user (user alerted)
	BA15	Call rejected
	BA16	Number changed
	BA1A	Non-selected user clearing
	BA1B	Destination out of order
	BA1C	Invalid number format
	BA1D	Facility rejected
	BA1E	Response to STATUS-ENQUIRY
	BA1F	Normal, unspecified
	BA22	No circuit/channel available
	BA26	Network out of order
	BA29	Temporary failure
	BA2A	Switching equipment congestion
	BA2B	Access information discarded
	BA2C	Requested circuit/channel not available
	BA2F	Resources unavailable, unspecified
	BA31	Quality of service unavailable
	BA32	Requested facility not subscribed
	BA39	Bearer capability not authorized
	BA3A	Bearer capability not presently available
	BA3F	Service or option not available, unspecified
	BA41	Bearer capability not implemented
	BA42	Channel type not implemented
	BA45	Requested facility not implemented
	BA46	Only restricted digital information bearer capability is available
	BA4F	Service or option not implemented, unspecified
	BA51	Invalid call reference value
	BA52	Identified channel does not exist
	BA53	A suspended call exists, but this call identity does not
	BA54	Call identity in use
	BA55	No call suspended
	BA56	Call having the requested call identity has been cleared
	BA58	Incompatible destination
	BA5B	Invalid transit network selection
	BA5F	Invalid message, unspecified
	BA60	Mandatory information element is missing
	BA61	Message type non-existent or not implemented
	BA62	Message not compatible with call state or message type non-existent or not implemented
	BA63	Information element non-existent or not implemented
	BA64	Invalid information element contents
	BA65	Message not compatible with call state
	BA66	Recovery on timer expiry
	BA6F	Protocol error, unspecified
	BA7F	Interworking, unspecified
	BB01	CONN message wait time out
	BB07	Reset request by network

Table 6.4 (2/3) G4 Service Code Lists

Classification	Code	Description
Bch layer 2	BC02	N2 times time out
	BC03	FRMR reception
	BC04	FRMR transmission
	BC05	The other party link disconnection
	BC08	T3 time out
	BD01	SABME wait time out
Bch layer 3	B201	The other party terminal busy
	B203	Incorrect facility request
	B205	Network congestion
	B209	Connection impossible (failure or absent)
	B210	Packet that is not adaptable to status transition (Packet level ready state)
	B211	Remote procedure error
	B212	Packet that is not adaptable to status transition (DTE restart request state)
	B213	Local procedure error
	B214	Packet that is not adaptable to status transition (Empty state)
	B215	Packet that is not adaptable to status transition (CO packet wait)
	B216	Packet that is not adaptable to status transition (CA packet wait)
	B217	Packet that is not adaptable to status transition (During data transmission)
	B218	Packet that is not adaptable to status transition (Outgoing/incoming collision)
	B219	Packet that is not adaptable to status transition (CQ packet)
	B221	Unallowable packet (Packet type not clear)
	B222	Unallowable packet (Call by special incoming logic channel)
	B226	Unallowable packet (Too short packet)
	B227	Unallowable packet (Too long packet)
	B229	Unallowable packet (Restart packet in which LCN or LCGN is not 0)
	B22A	Unallowable packet (Packet that is not adaptable to the facility)
	B231	Timer time out (CA packet wait time out)
	B232	Timer time out (CF packet wait time out)
	B233	Timer lapsed (RR/RNR packet wait time out)
	B241	Call setting problem (unallowable facility code)
	B242	Call setting problem (unallowable facility parameter)
	B243	Call setting problem (incoming address is invalid)
	B244	Call setting problem (outgoing address is invalid)
	B245	Call setting problem (invalid facility length)
	B246	Call setting problem (call termination reject)
	B247	Call setting problem (No empty logic channel)
	B248	Call setting problem (outgoing/incoming collision)
	B249	Call setting problem (overlapped facility request)
	B24A	Call setting problem (address length other than zero)
	B24B	Call setting problem (facility length other than zero)
Bch layer 4	B702	Reception TDT length over
	B703	TDT length negotiation unsuccessful
	B704	Invalid block received
	B705	Abnormal parameter received
	B706	Illegal block received
	B707	TCR wait time out (T0.2 T.O)
	B708	TCA wait time out (T1.1 T.O)
	B709	Communication interruption due to TCC reception
	B70A	Communication interruption due to TBR reception

Table 6.4 (3/3) G4 Service Code Lists

Classification	Code	Description
Bch layer 5	B901	Command response reception error
	B902	Non-implicit command response received
	B903	Lack of essential parameter
	B904	Invalid parameter reception
	B905	Invalid parameter value reception
	B906	Window size over reception
	B907	Document reference number error
	B908	Length illegal
	B909	Check point error
	B90A	Unallowable document
Bch layer 6	B801	Command response reception error
	B802	Parameter reception error
	B803	Negotiation unsuccessful RSSP reception
	B804	Negotiation unsuccessful RSSN reception
	B805	CSCC at the time when the transmission right cannot be reversed
	B806	CSA reception
	B809	Error recovery time out
	B80A	Time out at the time of termination
	B80B	Close wait time out
	B80C	CSE reception before close
Bch layer 7	AE01	Negotiation unsuccessful (requirement for communication with the other party FAX is not met)
	AE02	Negotiation unsuccessful (only the other party standard)
	AE03	The other party SUD fault
	AE04	Basic terminal function unmatched
	AE05	Switching type unmatched
	AE06	The other party TU fault

7. TROUBLESHOOTING AND REPAIR FOR FX-046VP

Extension cable lists

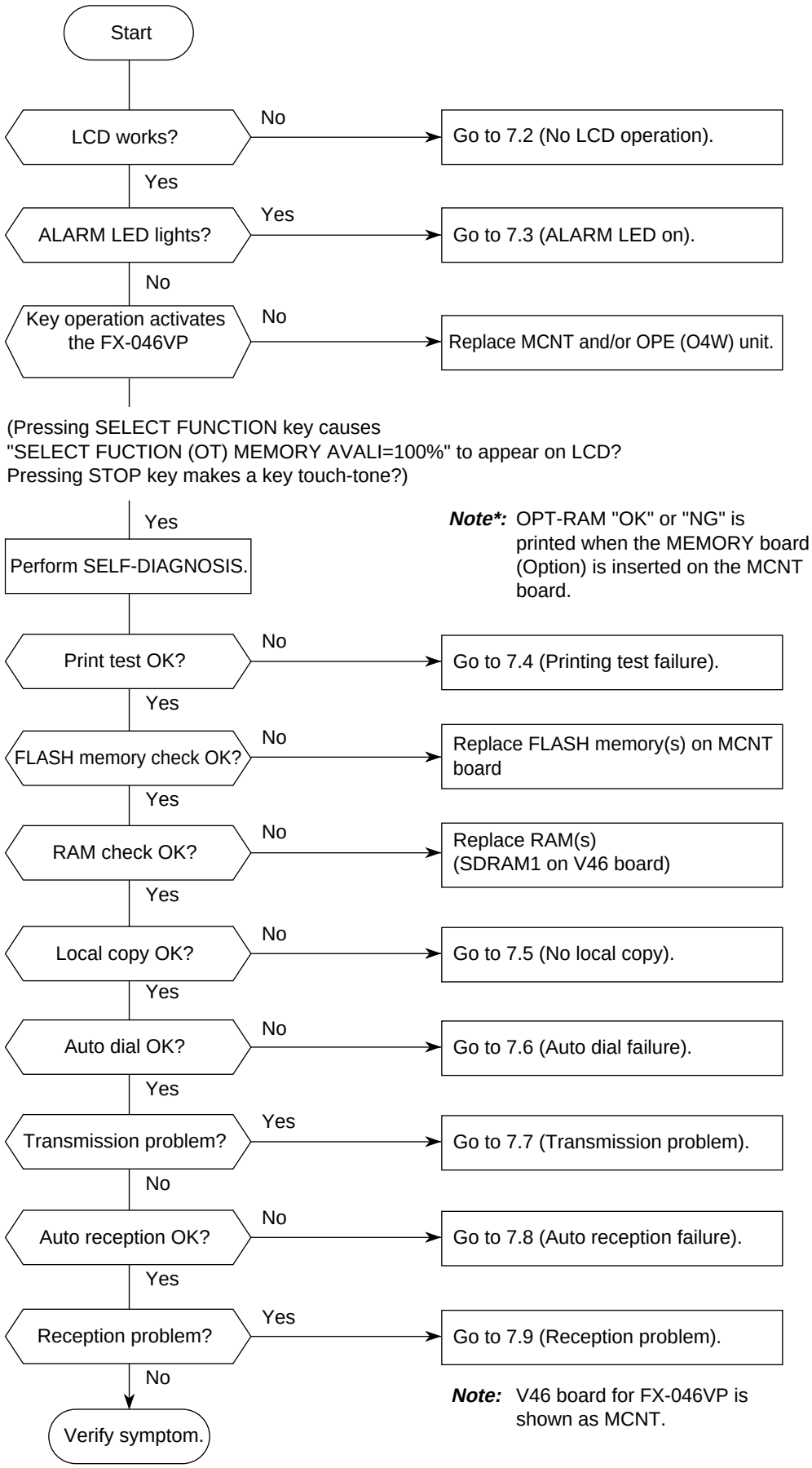
No.	Oki Parts Number	Description	Remarks	FX-046VP
1	4YS4111-5655P001	Extension cable (OPE)		•••
2	4YS4111-5656P001	Extension cable (Sensor)		○
3	4YS4111-5657P001	Extension cable (PC1, 2)		○
4	4YS4111-5658P001	Extension cable (Speaker)		○
5	4YS4111-5659P001	Extension cable (PWU)		•••
6	4YS4111-5660P001	Extension cable (FAN)		•••
7	4YS4111-5661P001	Extension cable (S-motor)		•••
8	4YS4111-5662P001	Extension cable (D-motor)		•••
9	4YS4111-5663P001	Extension cable (R-motor)		•••
10	4YS4111-5664P001	Extension cable (S-motor)		○ × 2
11	4YS4111-5665P001	Extension cable (D-motor)		•••
12	4YS4111-5666P001	Extension cable (R-motor)		•••
13	4YS4111-5667P001	Extension cable (2nd)		•••
14	238A1071P0006	SUMI card (LED head)		○
15	40331401YS	Connection code; extension (OPE)	OPE/MCNT	○
16	40331501YS	Connection code; extension (MPSU)	MCNT/MPSU (Power)	○
17	40331602YS	Connection code; extension (Heater)	HEATER AC/PSU	○
18	40331801YS	Connection code; extension (Clutch)	CLUTCH/MCNT	○
19	40332001YS	Connection code; extension	FUJI CARD: MCNT/HVPS	○
20	40332201YS	Connection code; extension (SPSU)	SPSU (Sub-power)/MCNT	•••
21	40332301YS	Connection code; extension (PSU)	PSU (Power)/SPSU (Sub-power)	•••
22	40331901YS	Connection code; extension (Transformer)	Transformer/SPSU (Sub-power)	•••
23	40780201YS	Connection Flat (P6L)	MCNT/P6L	○
24	4YS4111-5665P001	Extension cable (D-motor)	Applicable to S-motor	•••
25	4YS4111-2491G001	Extension cable (D/R-motor)	Applicable to D/R-motor	•••
26	238A1071P0006	SUMI card (LED1)		•••
27	238A1071P0007	SUMI card (LED2)		•••
28		Extension cable (3.3V)	PSU (3.3V)	•••

This chapter contains:

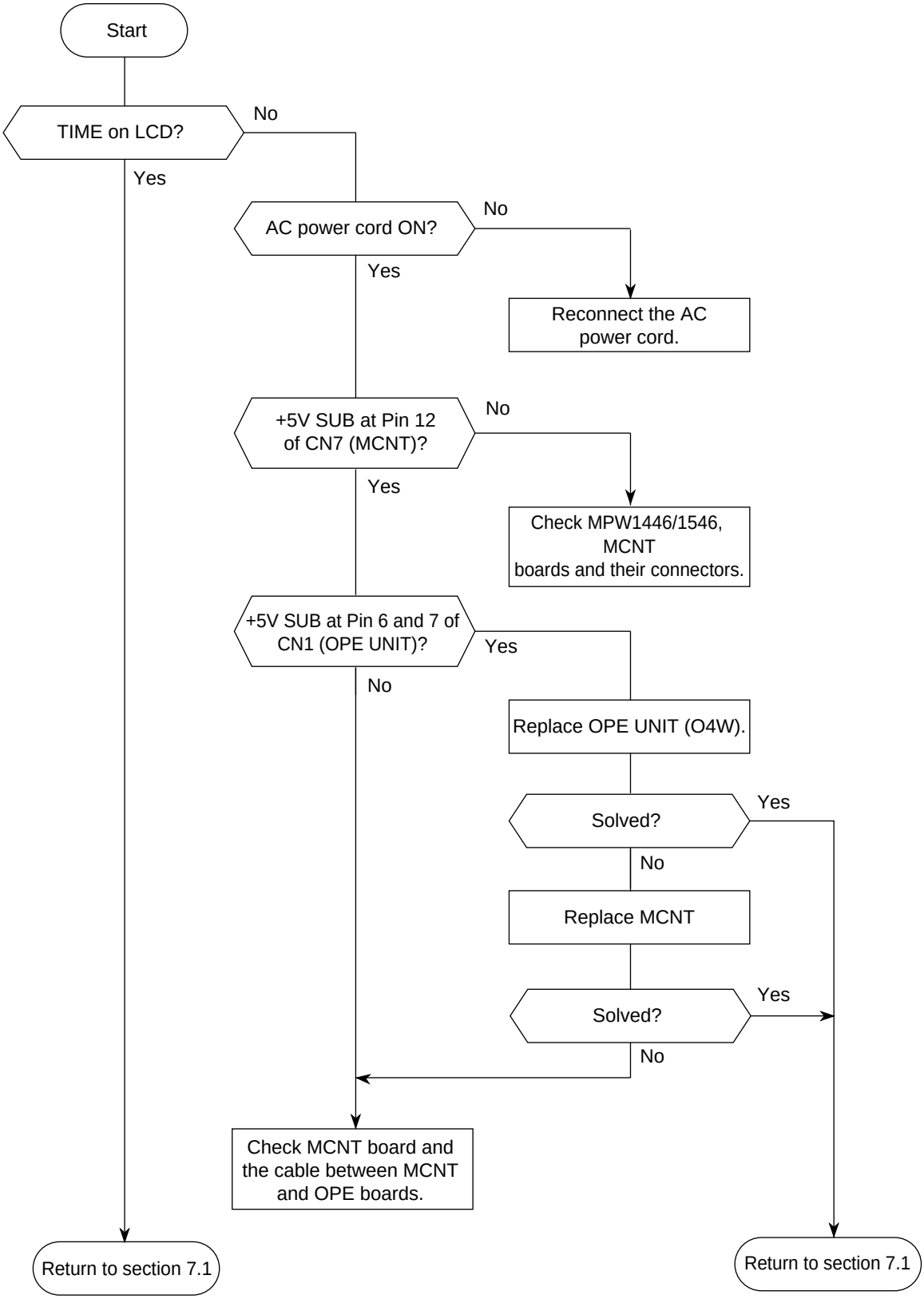
(a) Troubleshooting flow charts related to general operations
(b) Troubleshooting flow charts by test operations
(c) Troubleshooting flow charts placing an emphasis on mechanical portions

Section No.	Name of Flow Chart	(a)	(b)	(c)	Page
7.1	Overall troubleshooting flow chart	◯	◯		222
7.2	No LCD operation	◯			223
7.3	ALARM LED on	◯			224
7.4	Printing test failure	◯	◯		225
7.5	No local copy	◯	◯		226
7.6	Auto dial failure	◯			227
7.7	Transmission problem	◯			228
7.8	Auto reception failure	◯			229
7.9	Reception problem	◯			230
7.10	Sensor calibration test		◯		231
7.11	LED test		◯		232
7.12	Tone send test		◯		233
7.13	High-speed modem test		◯		234
7.14	MF (Tone) send test		◯		236
7.15	Tone (TEL/FAX) send test		◯		237
7.16	No acoustic line monitor	◯			238
7.17	Power supply unit	◯			239
7.18	No document feeding			◯	239
7.19	Multiple document feeding			◯	240
7.20	Document skew			◯	241
7.21	Document jam			◯	243
7.22	Printer unit				244

7.1 Overall Troubleshooting Flow Chart

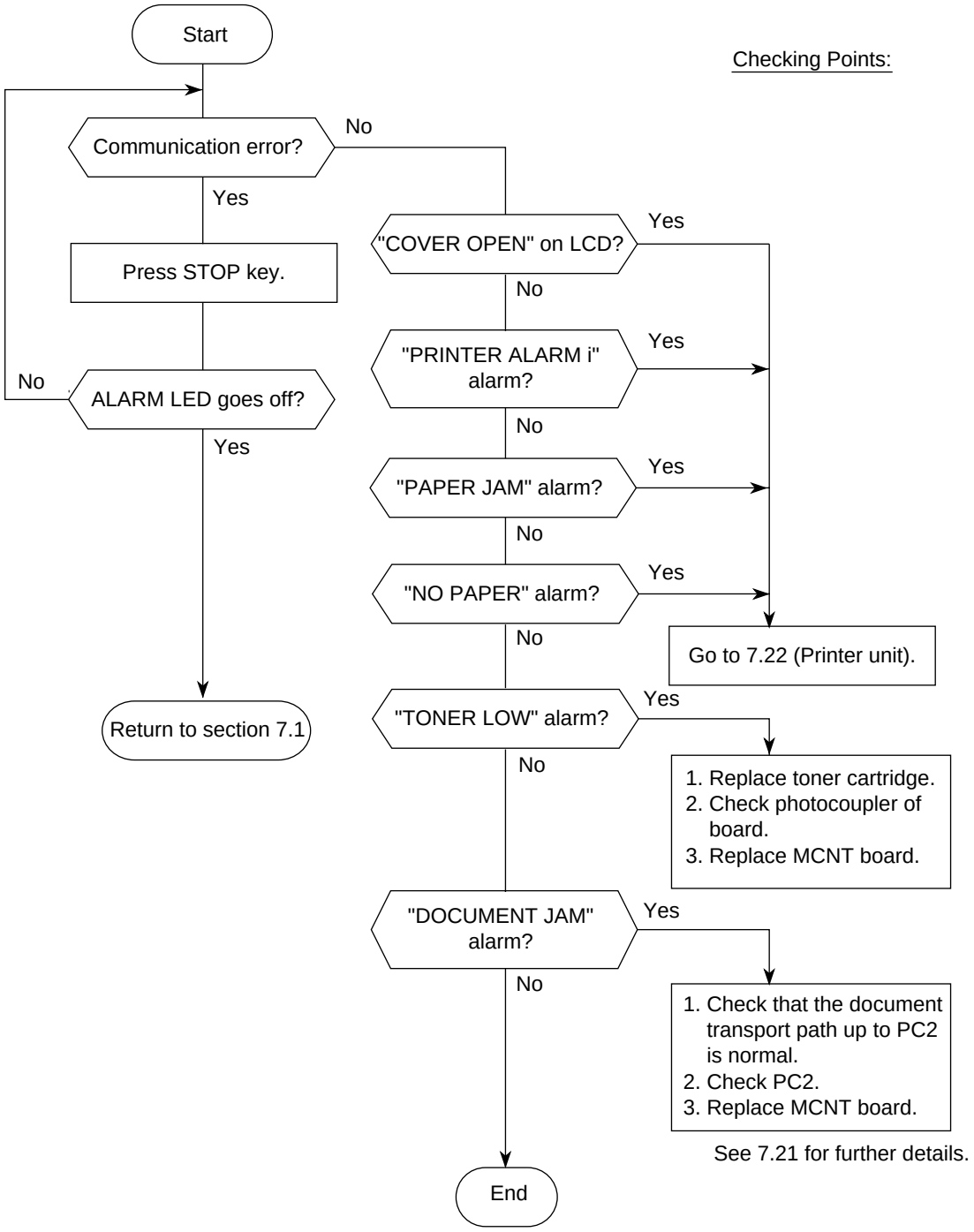


7.2 No LCD Operation



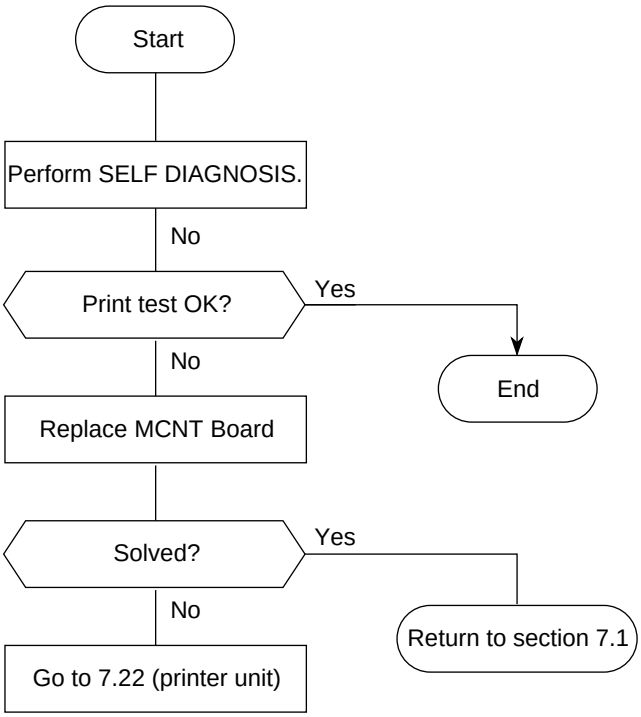
Note: V46 is shown as MCNT.

7.3 Alarm LED On

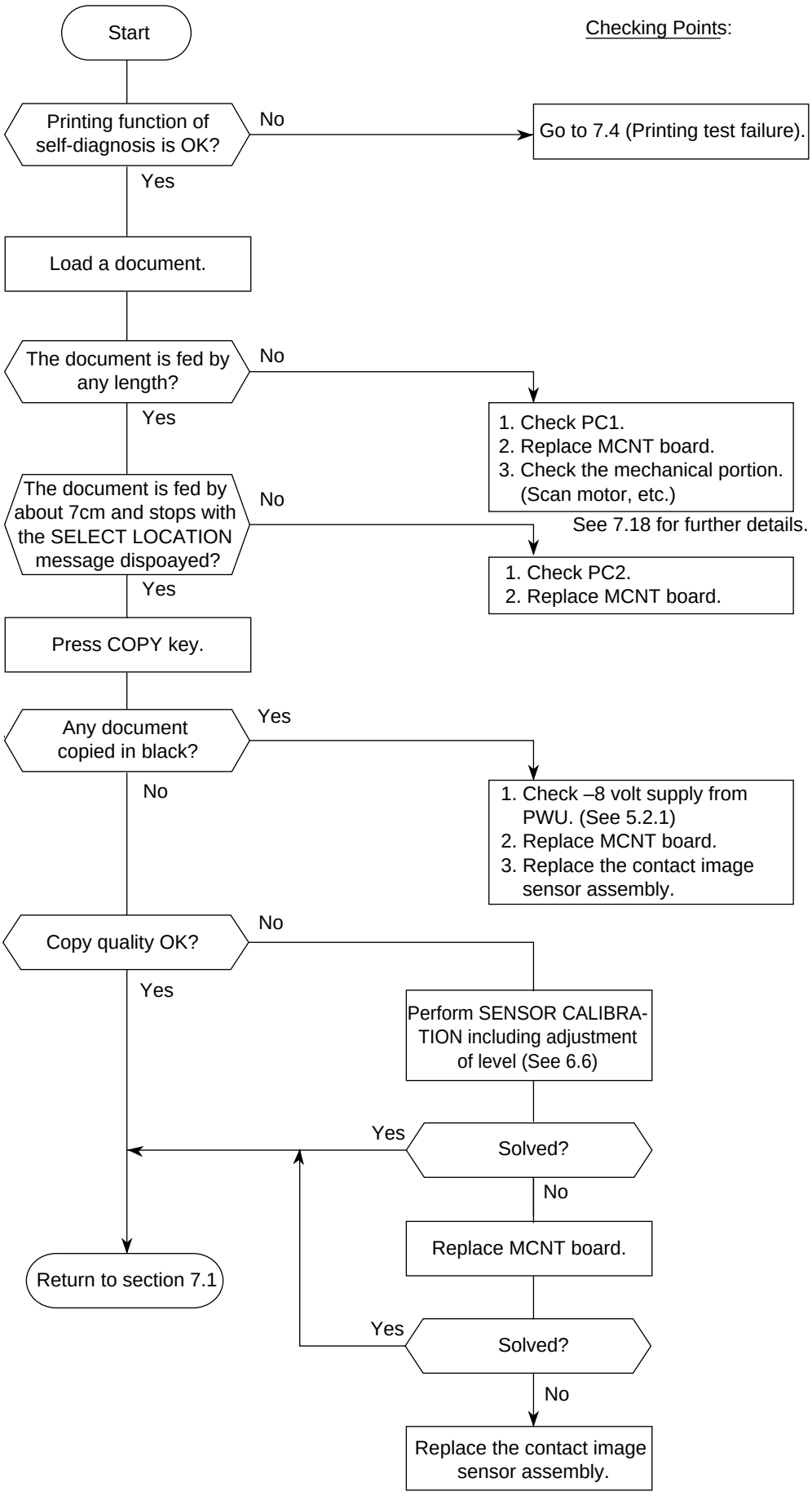


Note* : "PRINTER ALARM i" will be shown as follows:
PRINTER ALARM 2 and PRINTER ALARM 4.

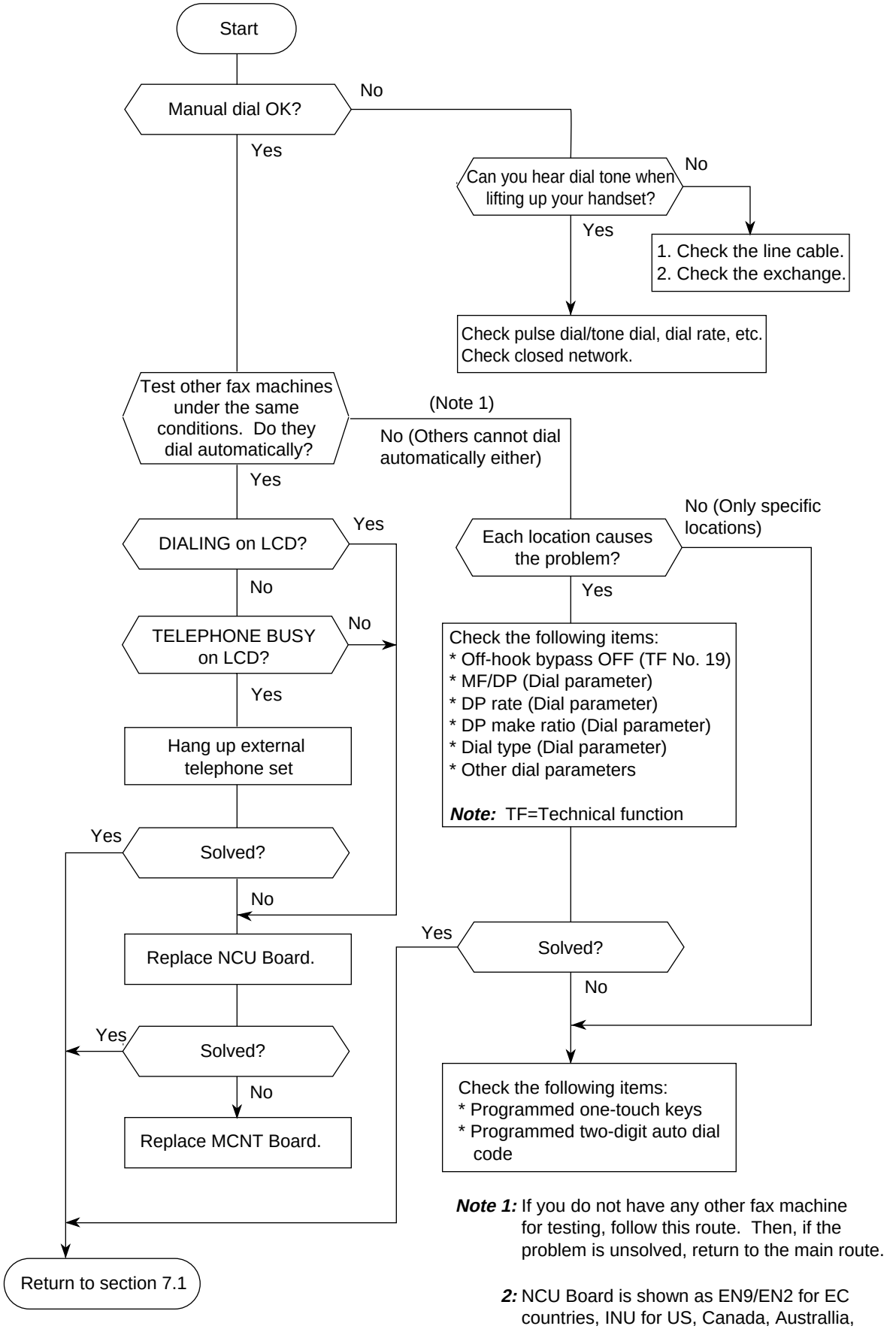
7.4 Printing Test Failure



7.5 No Local Copy



7.6 Auto Dial Failure

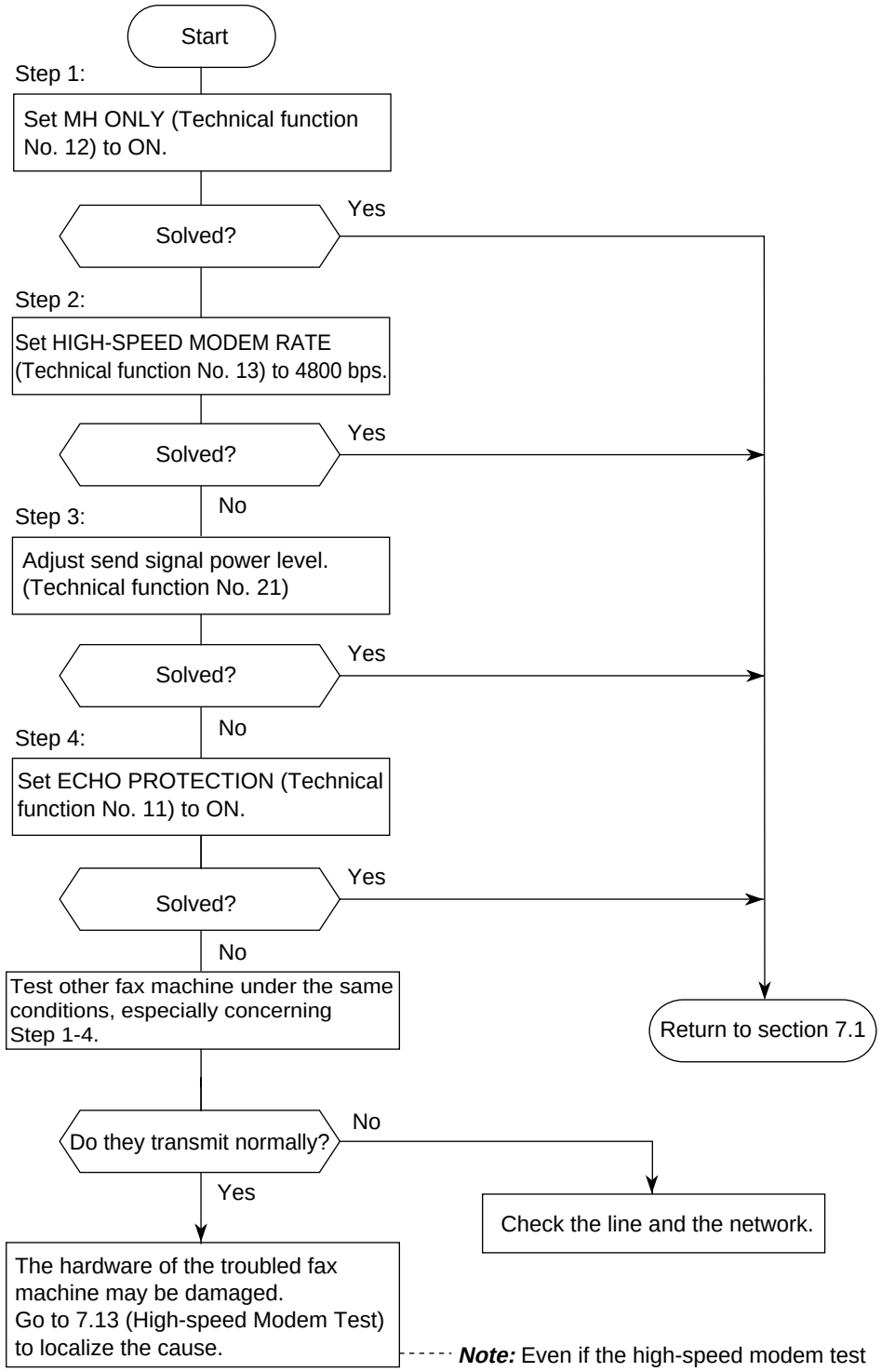


Note 1: If you do not have any other fax machine for testing, follow this route. Then, if the problem is unsolved, return to the main route.

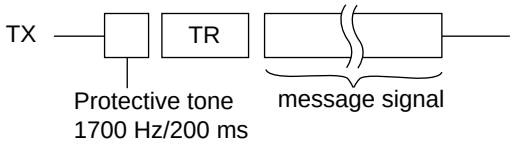
2: NCU Board is shown as EN9/EN2 for EC countries, INU for US, Canada, Australia, New Zealand, Singapore, China, Malaysia and non-EC countries (Poland etc.)

7.7 Transmission Problem

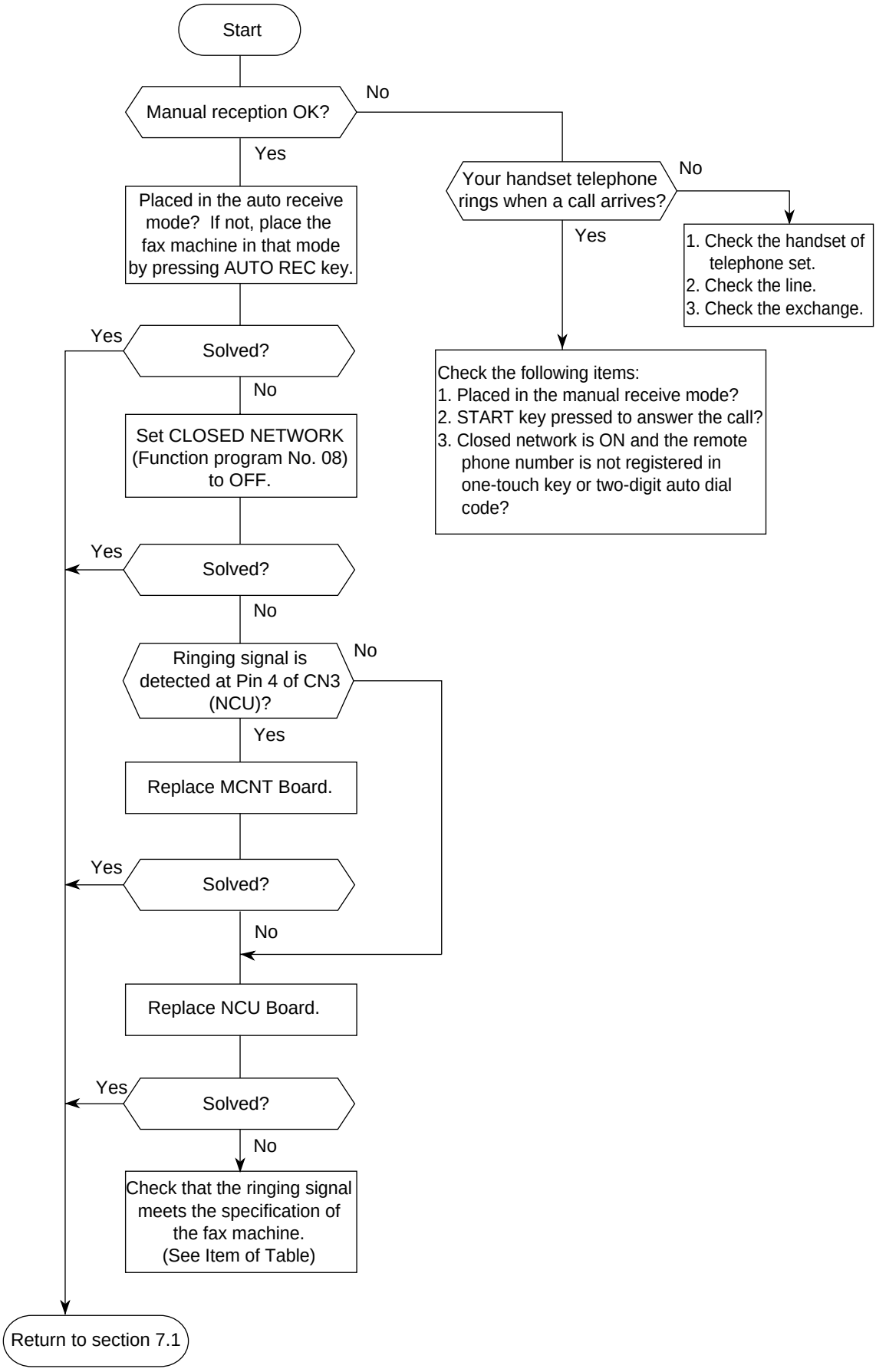
This section explains how to localize the cause of problems occurred after completion of connection with a remote station.


Start
Step 1:
Set MH ONLY (Technical function No. 12) to ON.
Solved?
Yes
Step 2:
Set HIGH-SPEED MODEM RATE (Technical function No. 13) to 4800 bps.
Solved?
Yes
No
Step 3:
Adjust send signal power level. (Technical function No. 21)
Solved?
Yes
No
Step 4:
Set ECHO PROTECTION (Technical function No. 11) to ON.
Solved?
Yes
No
Test other fax machine under the same conditions, especially concerning Step 1-4.
Return to section 7.1
Do they transmit normally?
No
Yes
Check the line and the network.
The hardware of the troubled fax machine may be damaged.
Go to 7.13 (High-speed Modem Test) to localize the cause.
Note: Even if the high-speed modem test results in success, 300 bps signal route remains unchecked. In that case, the most suspected unit is MCNT Board.

Description: Protective tone is 1700 Hz/200 ms.
This signal is added to training signal to protect the training signal against echo as follows.

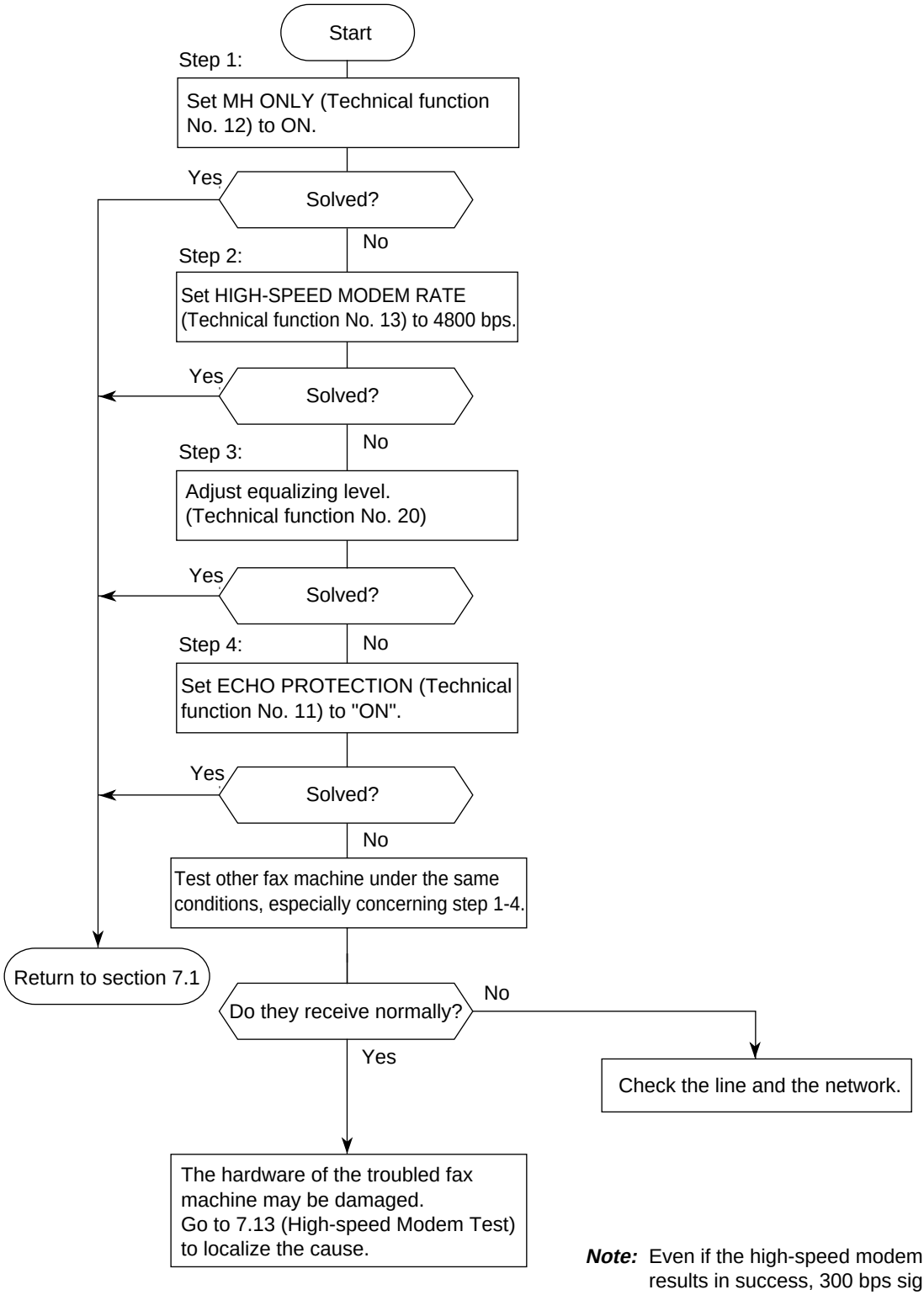


7.8 Auto Reception Failure


Start
Manual reception OK?
No
Yes
Your handset telephone rings when a call arrives?
No
Yes
1. Check the handset of telephone set.
2. Check the line.
3. Check the exchange.
Placed in the auto receive mode? If not, place the fax machine in that mode by pressing AUTO REC key.
Check the following items:
1. Placed in the manual receive mode?
2. START key pressed to answer the call?
3. Closed network is ON and the remote phone number is not registered in one-touch key or two-digit auto dial code?
Yes
Solved?
No
Set CLOSED NETWORK (Function program No. 08) to OFF.
Yes
Solved?
No
Ringing signal is detected at Pin 4 of CN3 (NCU)?
No
Yes
Replace MCNT Board.
Yes
Solved?
No
Replace NCU Board.
Yes
Solved?
No
Check that the ringing signal meets the specification of the fax machine. (See Item of Table)
Return to section 7.1

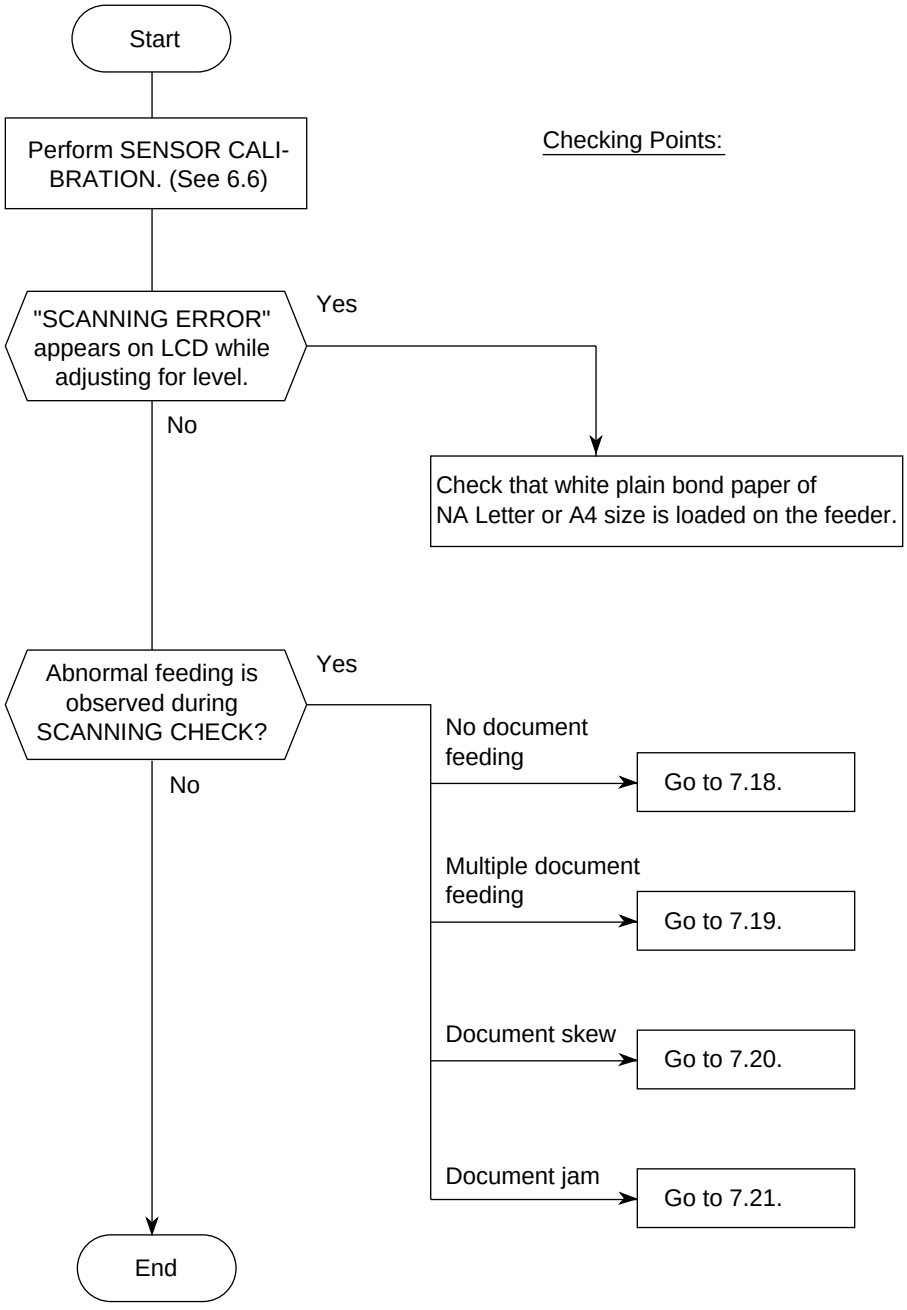
7.9 Reception Problem

This section explains how to localize the cause of problems occurred after completion of connection with a remote station.

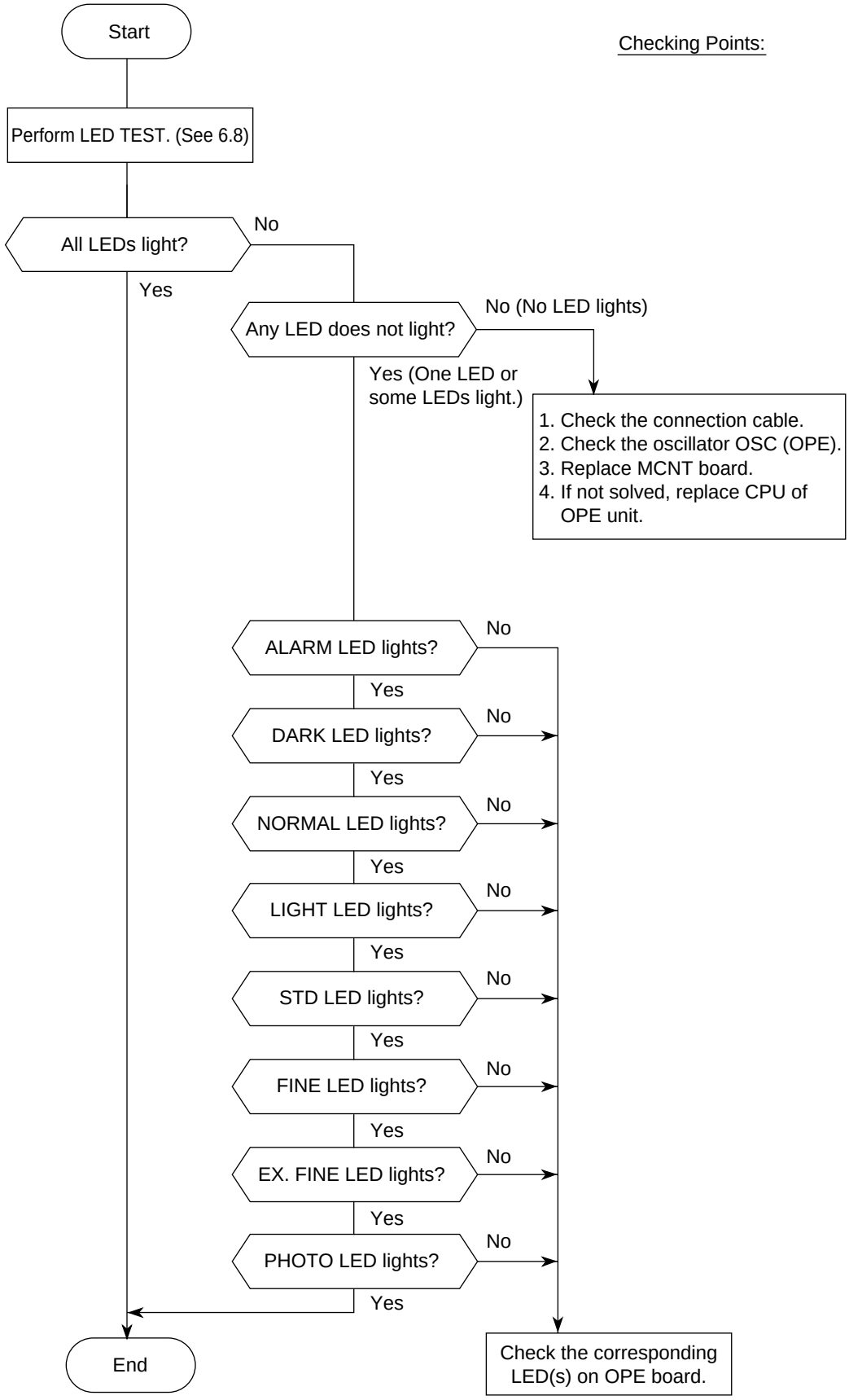


Note: Even if the high-speed modem test results in success, 300 bps signal route remains unchecked. In that case, the most suspected unit is MCNT board.

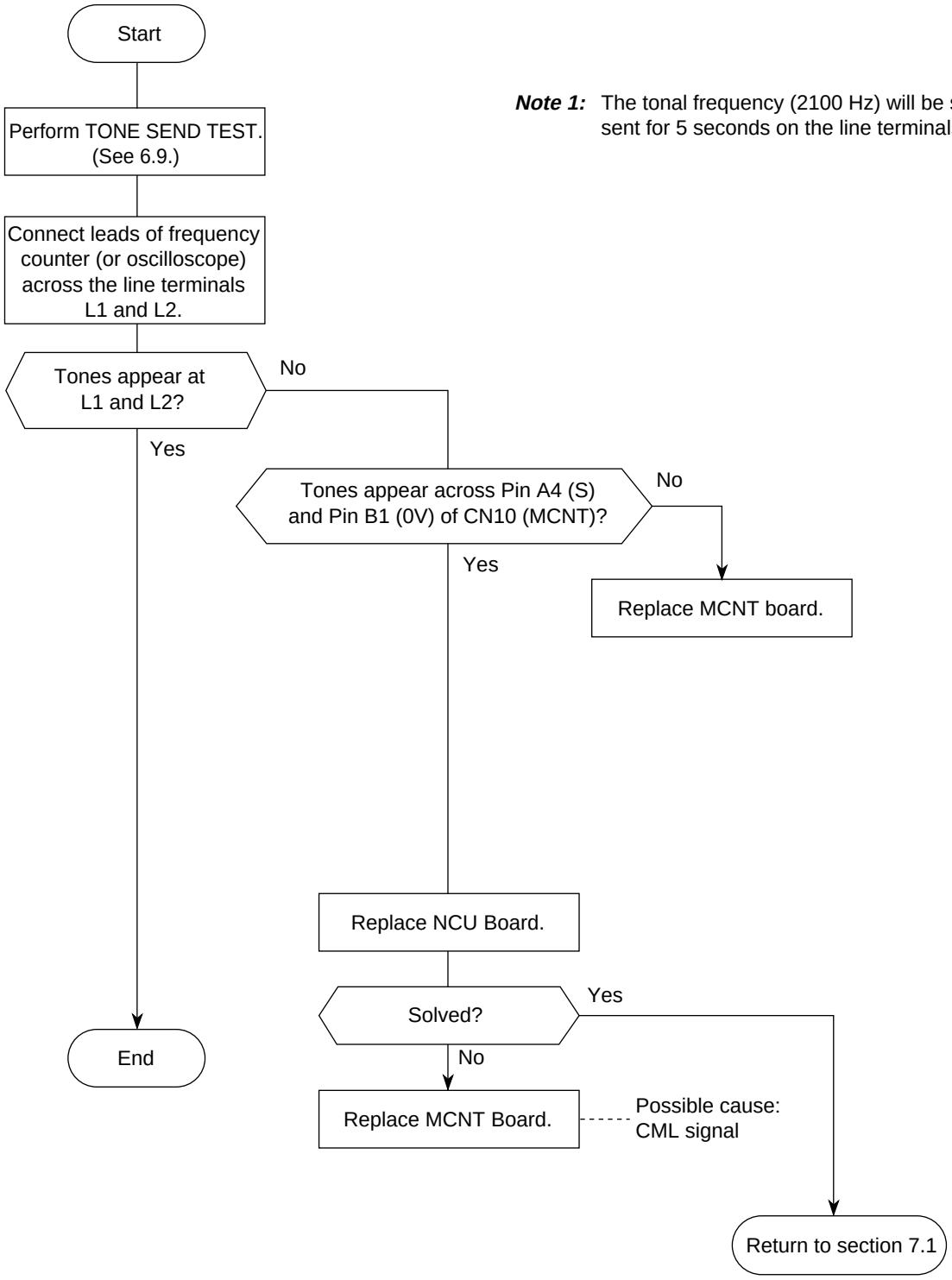
7.10 Sensor Calibration Test



7.11 LED Test

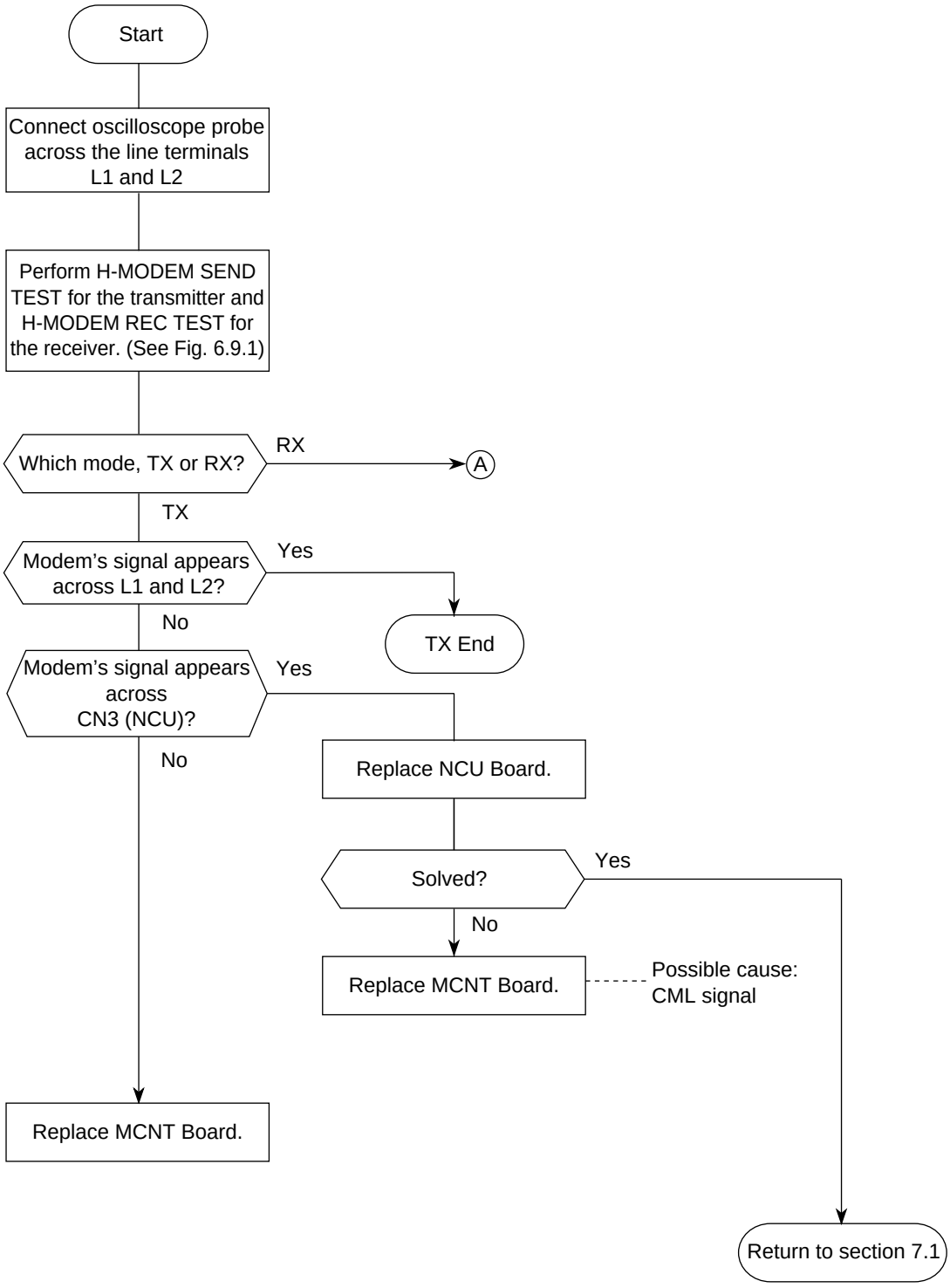

Start
Perform LED TEST. (See 6.8)
All LEDs light?
No
Yes
Any LED does not light?
No (No LED lights)
Yes (One LED or some LEDs light.)
Checking Points:
1. Check the connection cable.
2. Check the oscillator OSC (OPE).
3. Replace MCNT board.
4. If not solved, replace CPU of OPE unit.
ALARM LED lights?
DARK LED lights?
NORMAL LED lights?
LIGHT LED lights?
STD LED lights?
FINE LED lights?
EX. FINE LED lights?
PHOTO LED lights?
End
Check the corresponding LED(s) on OPE board.

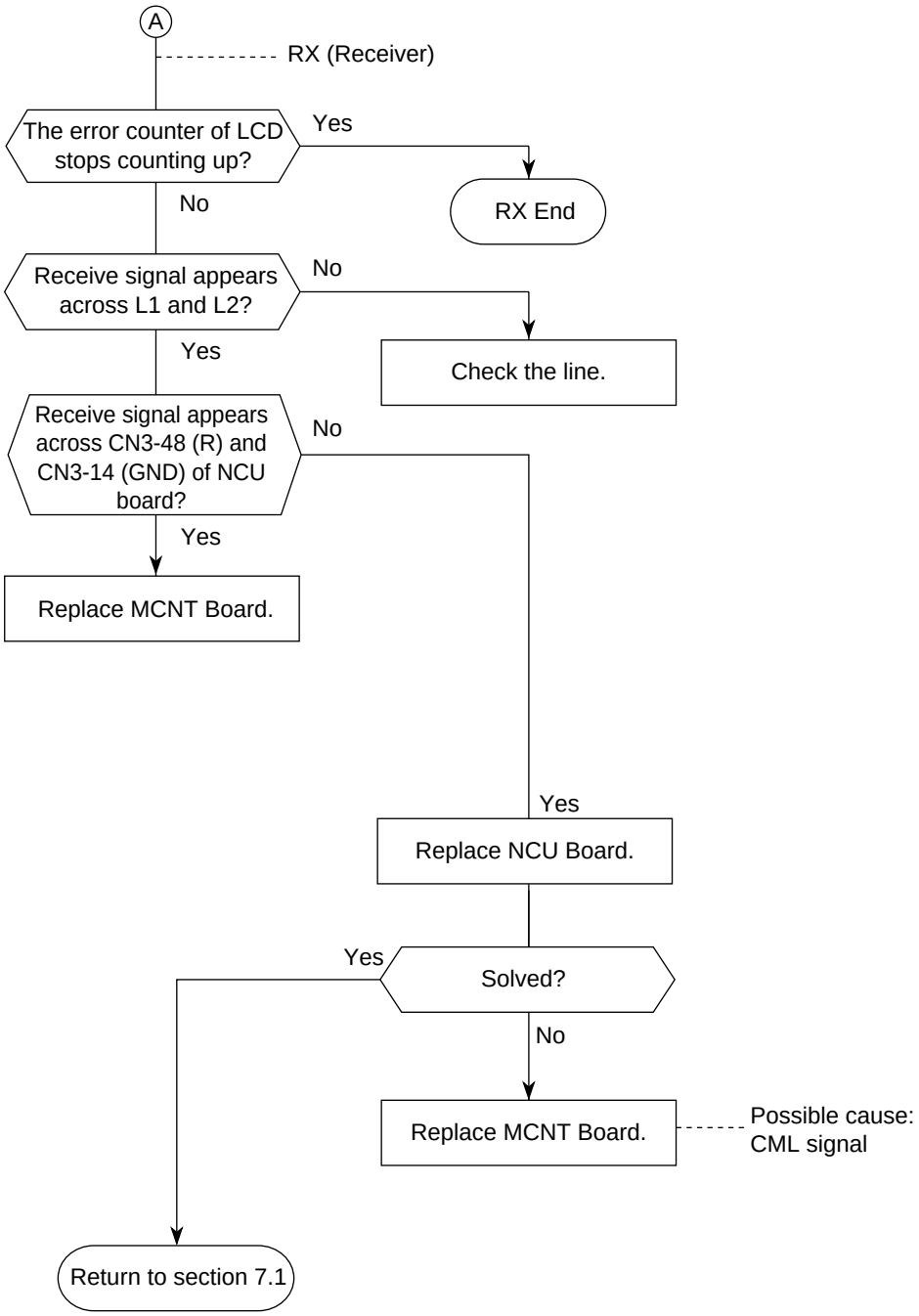
7.12 Tone Send Test



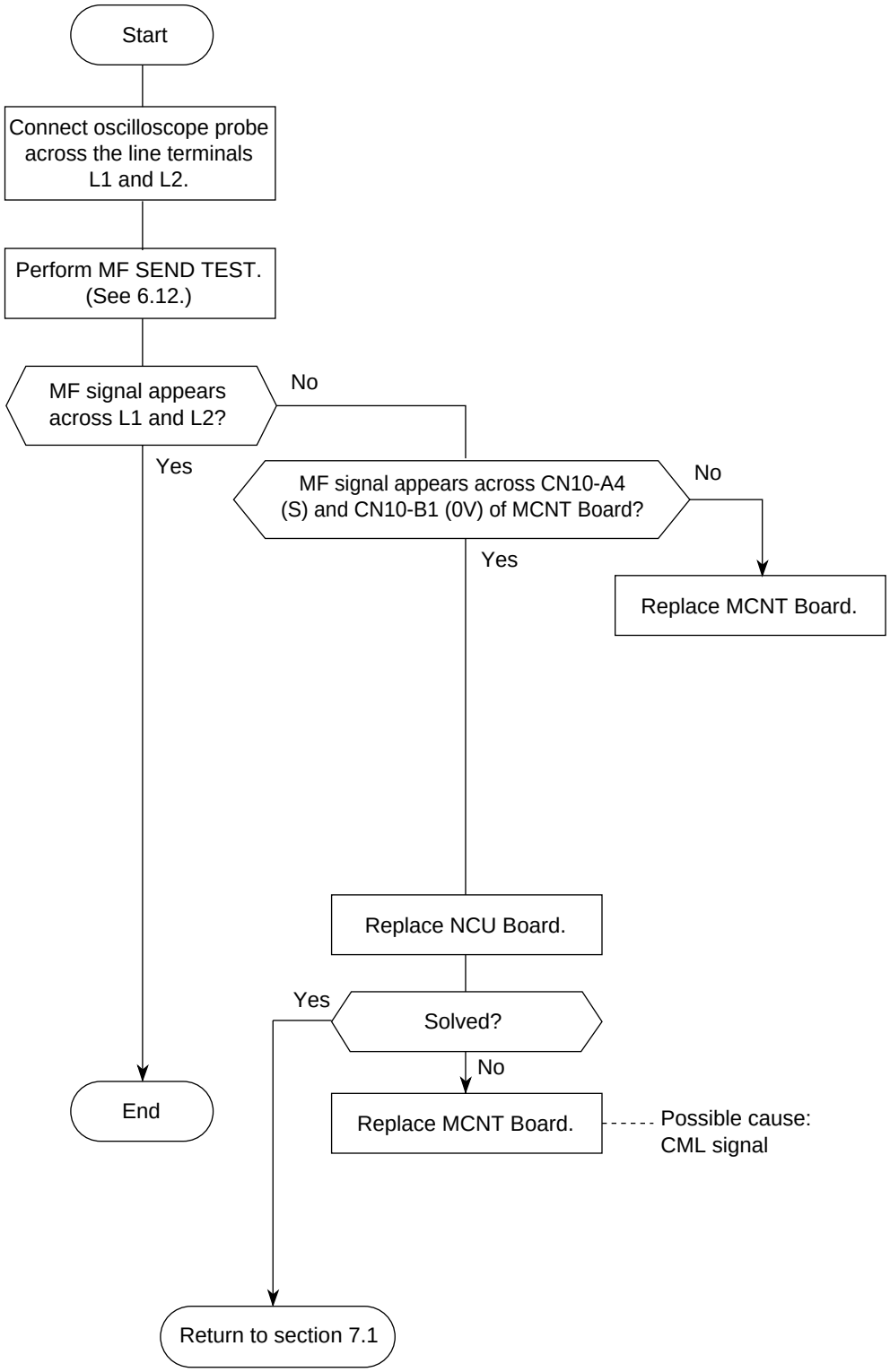
Note 1: The tonal frequency (2100 Hz) will be sequentially sent for 5 seconds on the line terminals L1 and L2.

7.13 High-speed Modem Test

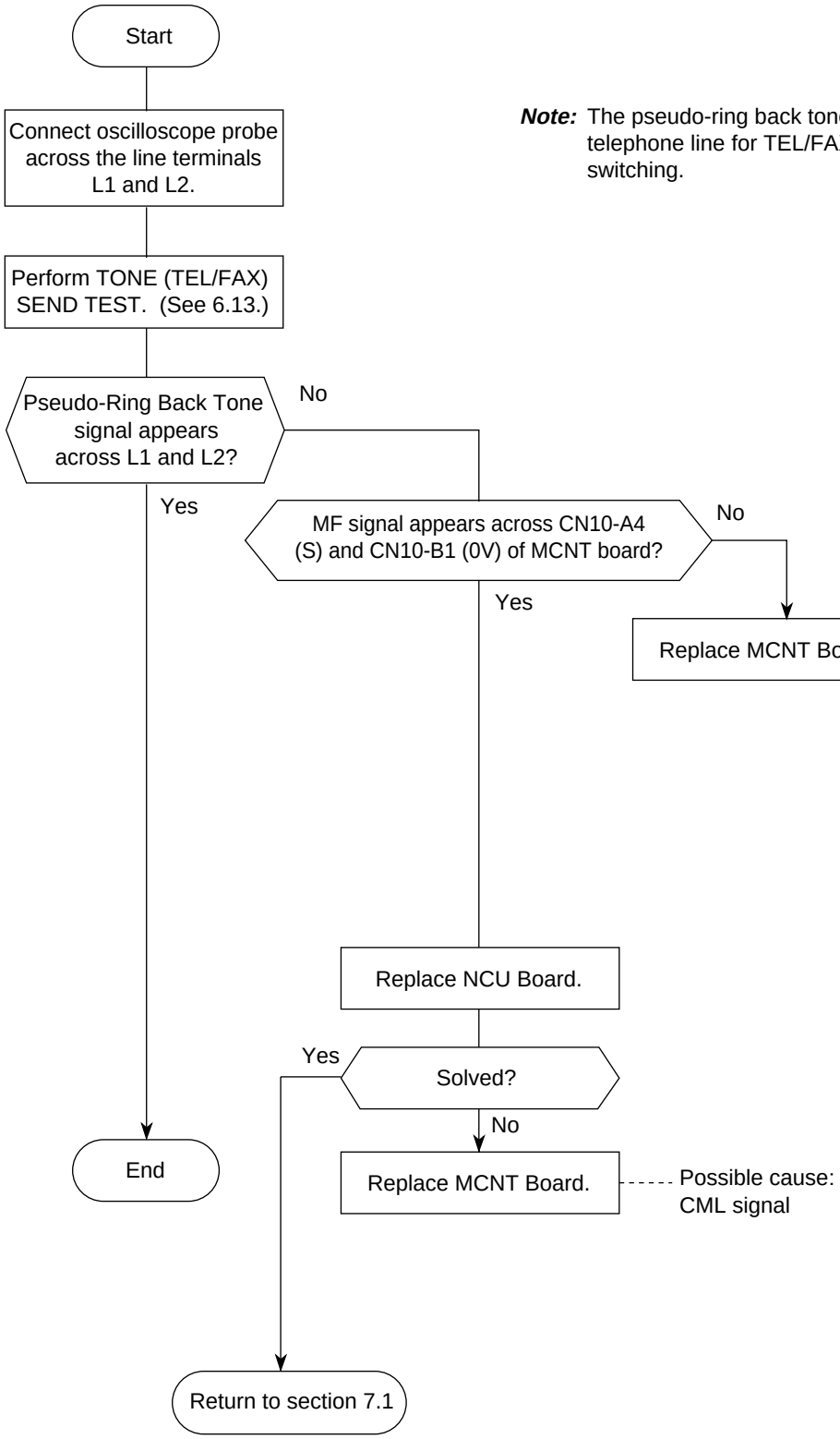



A
RX (Receiver)
The error counter of LCD stops counting up?
Yes
RX End
No
Receive signal appears across L1 and L2?
No
Check the line.
Yes
Receive signal appears across CN3-48 (R) and CN3-14 (GND) of NCU board?
No
Yes
Replace MCNT Board.
Yes
Replace NCU Board.
Yes
Solved?
No
Replace MCNT Board.
Possible cause:
CML signal
Return to section 7.1

7.14 MF Send Test



7.15 Tone (TEL/FAX) Send Test

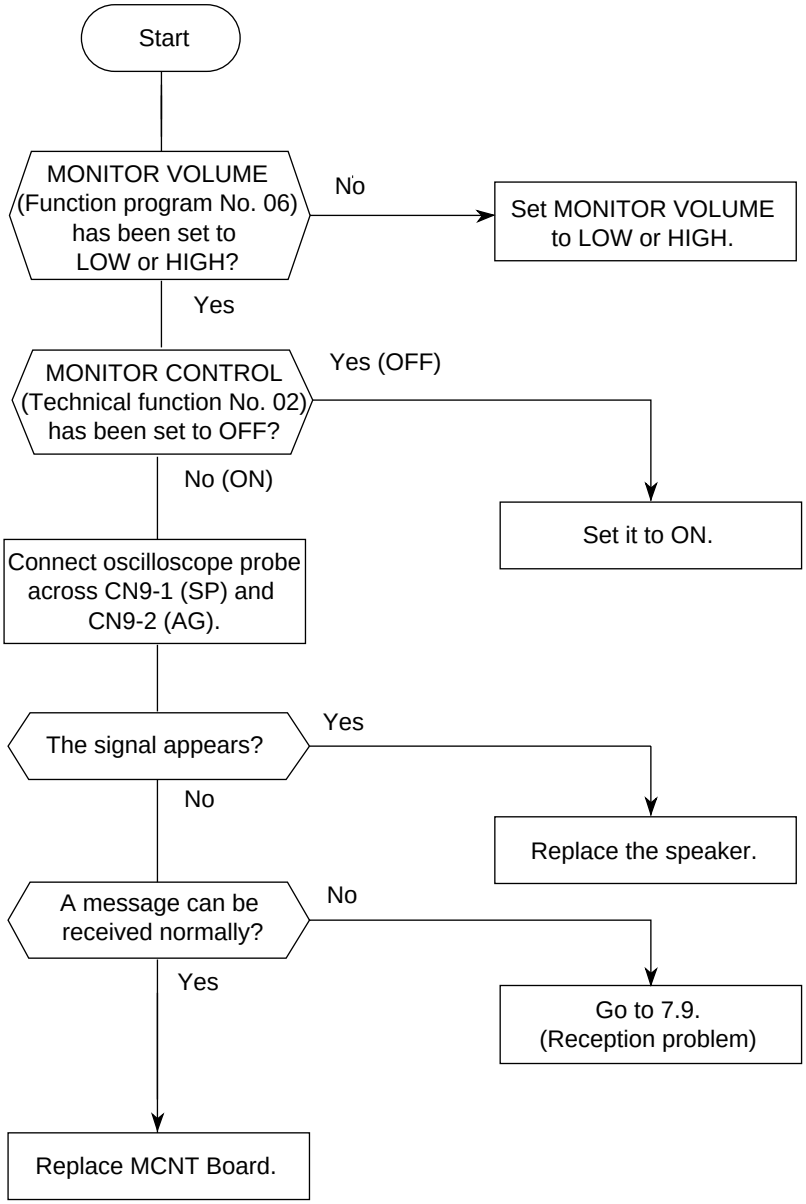


Note: The pseudo-ring back tone is sent to the telephone line for TEL/FAX automatic switching.

7.16 No Acoustic Line Monitor

There are two source routes of acoustic line monitor:

(a) General communication signal
(b) DP pulse signal



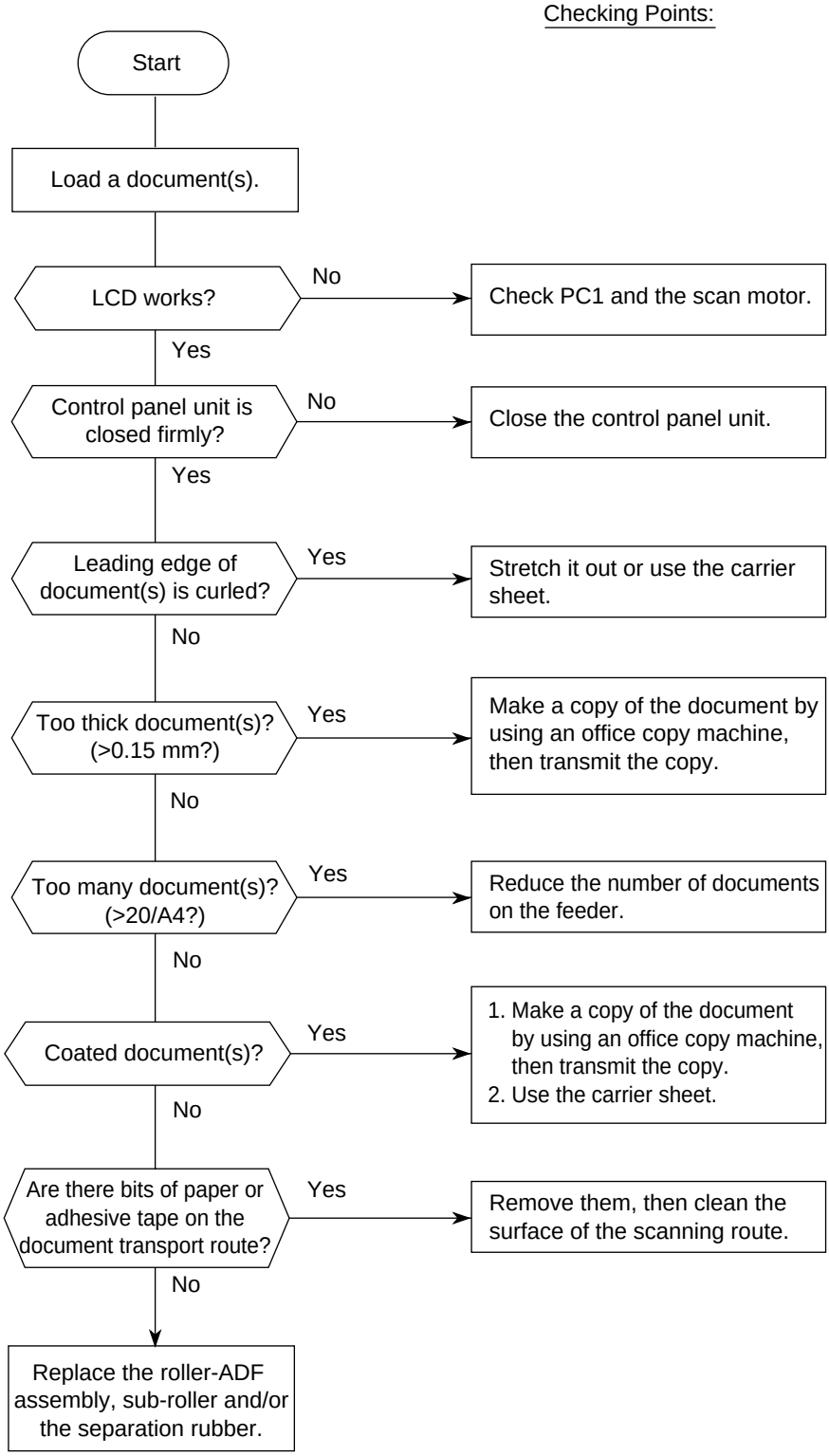
7.17 Power Supply Unit

(A) Low-voltage Selection
Replace the Power Supply Unit when output voltage written on the item A3 in the Appendix A is not normal.

(B) High-voltage Selection
T.B.D. (To be determined)

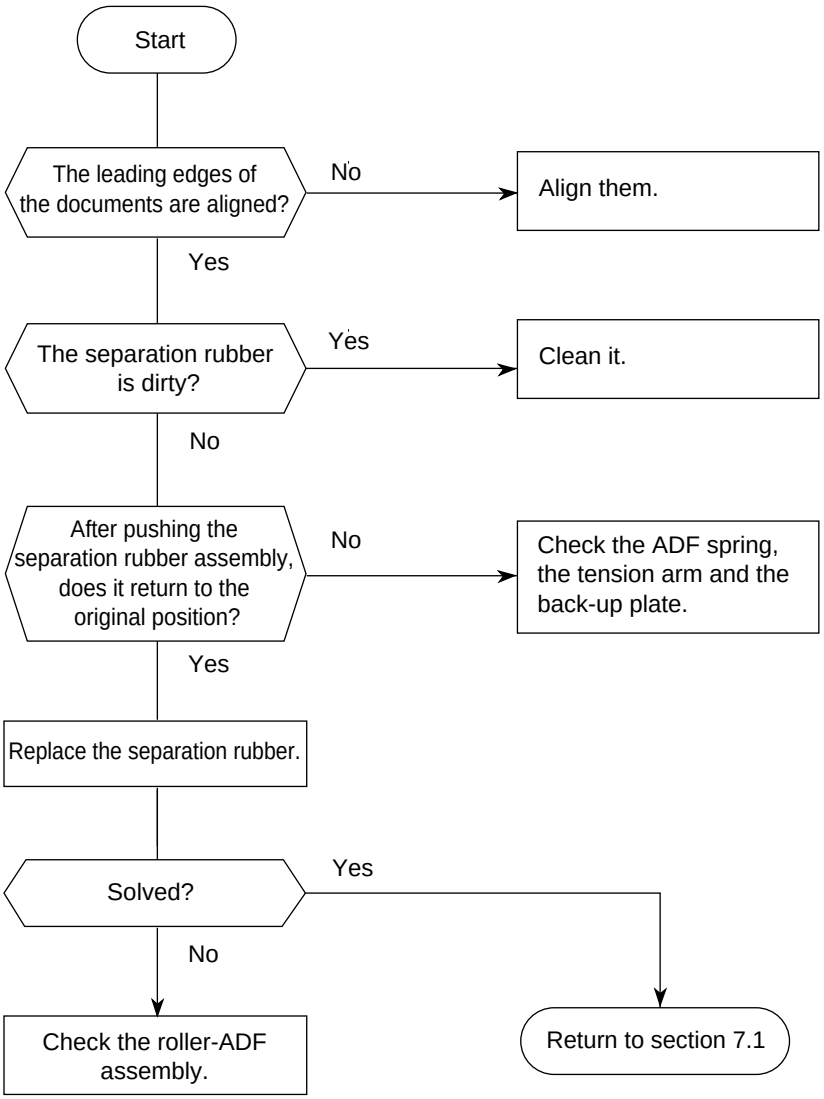
7.18 No Document Feeding

Note: This section places an emphasis on troubleshooting of mechanical portions. Therefore, it is recommended to replace the MCNT Board first and, then if not solved, follow this flow chart.

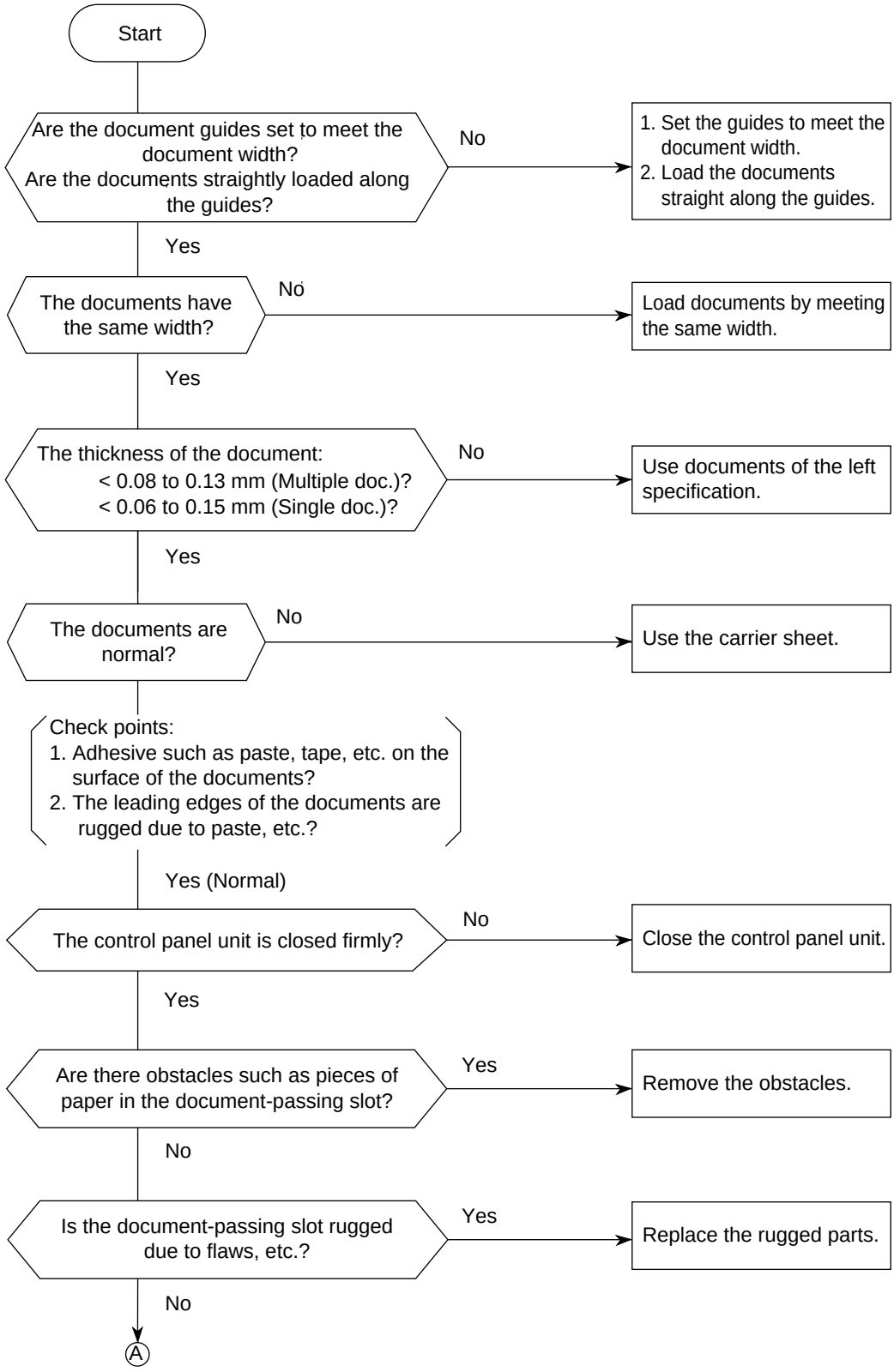

Checking Points:
Start
Load a document(s).
LCD works?
No
Check PC1 and the scan motor.
Yes
Control panel unit is closed firmly?
No
Close the control panel unit.
Yes
Leading edge of document(s) is curled?
Yes
Stretch it out or use the carrier sheet.
No
Too thick document(s)? (>0.15 mm?)
Yes
Make a copy of the document by using an office copy machine, then transmit the copy.
No
Too many document(s)? (>20/A4?)
Yes
Reduce the number of documents on the feeder.
No
Coated document(s)?
Yes
1. Make a copy of the document by using an office copy machine, then transmit the copy.
2. Use the carrier sheet.
No
Are there bits of paper or adhesive tape on the document transport route?
Yes
Remove them, then clean the surface of the scanning route.
No
Replace the roller-ADF assembly, sub-roller and/or the separation rubber.

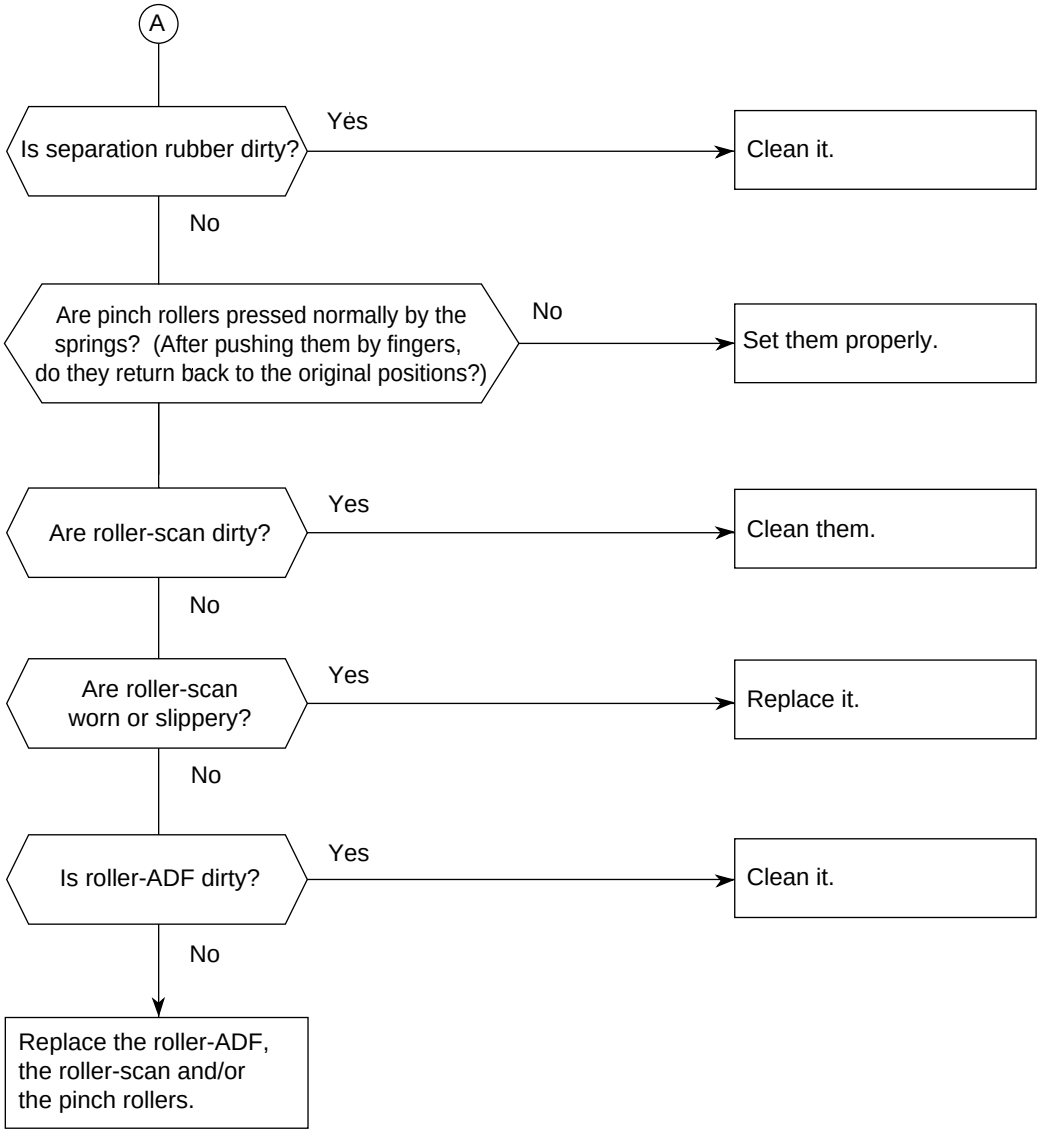
7.19 Multiple Document Feeding

Definition: Multiple document feeding.
Multiple documents are not separated and they are fed in the same one feeding operation.

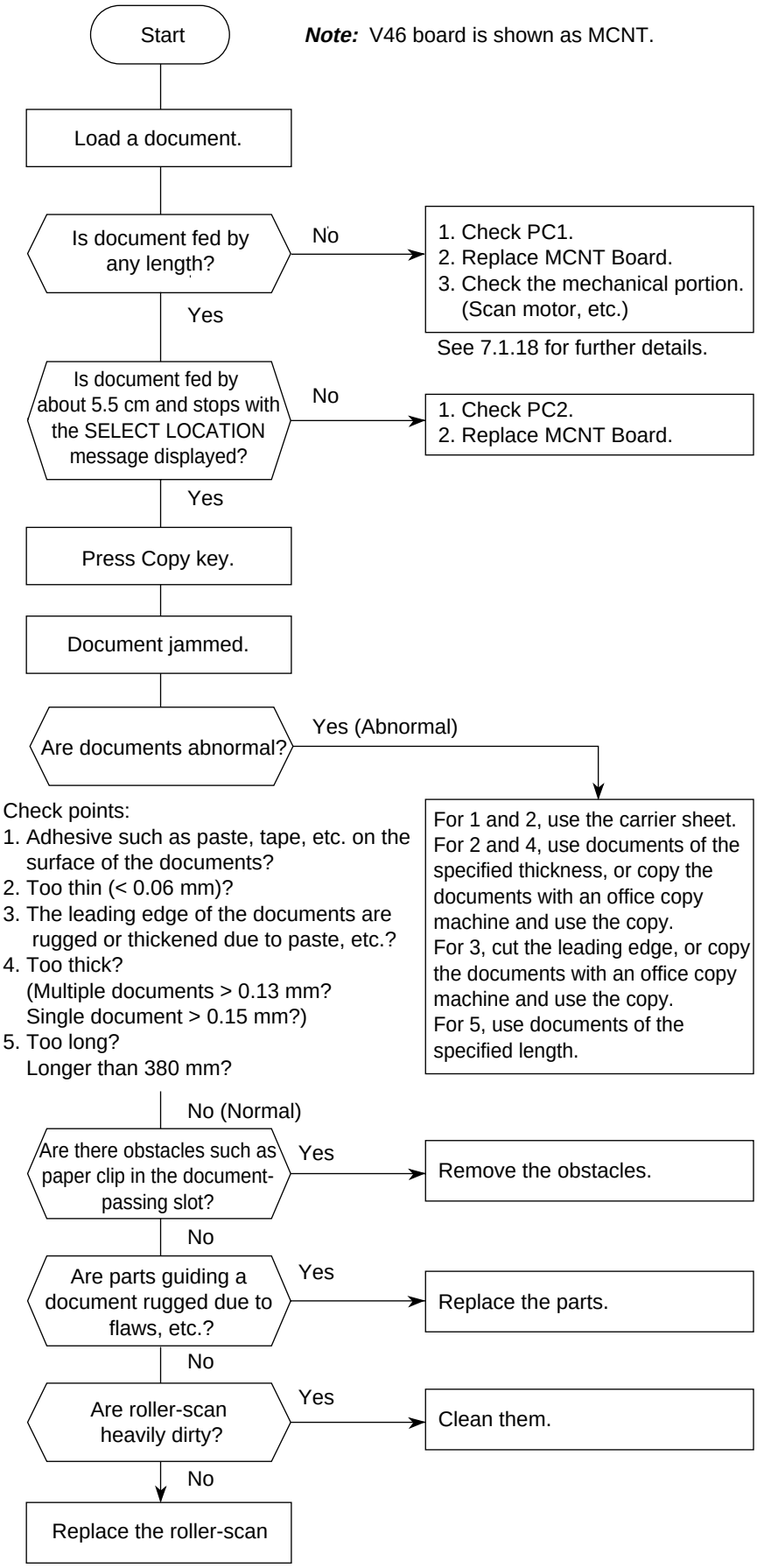


7.20 Document Skew


Start
Are the document guides set to meet the document width?
Are the documents straightly loaded along the guides?
No
1. Set the guides to meet the document width.
2. Load the documents straight along the guides.
Yes
The documents have the same width?
No
Load documents by meeting the same width.
Yes
The thickness of the document:
< 0.08 to 0.13 mm (Multiple doc.)?
< 0.06 to 0.15 mm (Single doc.)?
No
Use documents of the left specification.
Yes
The documents are normal?
No
Use the carrier sheet.
Check points:
1. Adhesive such as paste, tape, etc. on the surface of the documents?
2. The leading edges of the documents are rugged due to paste, etc.?
Yes (Normal)
The control panel unit is closed firmly?
No
Close the control panel unit.
Yes
Are there obstacles such as pieces of paper in the document-passing slot?
Yes
Remove the obstacles.
No
Is the document-passing slot rugged due to flaws, etc.?
Yes
Replace the rugged parts.
No
A


A
Is separation rubber dirty?
Yes
Clean it.
No
Are pinch rollers pressed normally by the springs? (After pushing them by fingers, do they return back to the original positions?)
No
Set them properly.
Are roller-scan dirty?
Yes
Clean them.
No
Are roller-scan worn or slippery?
Yes
Replace it.
No
Is roller-ADF dirty?
Yes
Clean it.
No
Replace the roller-ADF, the roller-scan and/or the pinch rollers.

7.21 Document Jam



7.22 Printer Unit

7.22.1 Precautions

1. Points to check before correcting image troubles
   (1) Is the printer being run in proper ambient conditions?
   (2) Have the supplies (toner) and the routine replacement part (EP unit) been replaced properly?
   (3) Is the recording paper normal?
   (4) Has the EP unit been loaded properly?

2. Tips for correcting image troubles
   (1) Do not touch, or bring foreign matter into contact with the surface of the drum.
   (2) Do not expose the drum to direct sunlight.
   (3) Keep hands off the fuser unit as it is heated during operation.
   (4) Do not expose the drum to light for longer than 5 minutes at room temperature.

7.22.2 Troubleshooting Flow Charts of Printer Unit

Overall troubleshooting flow chart:

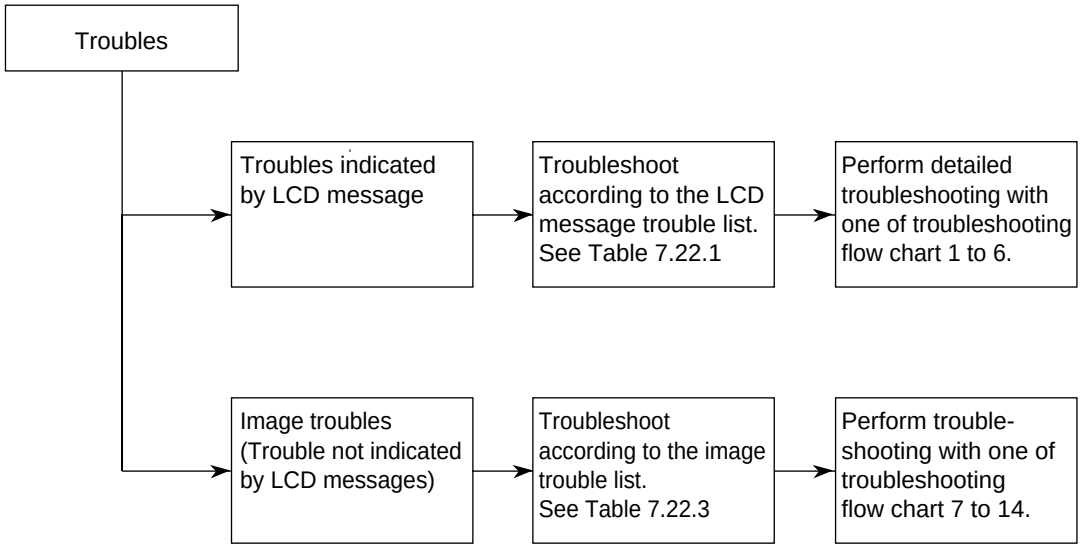
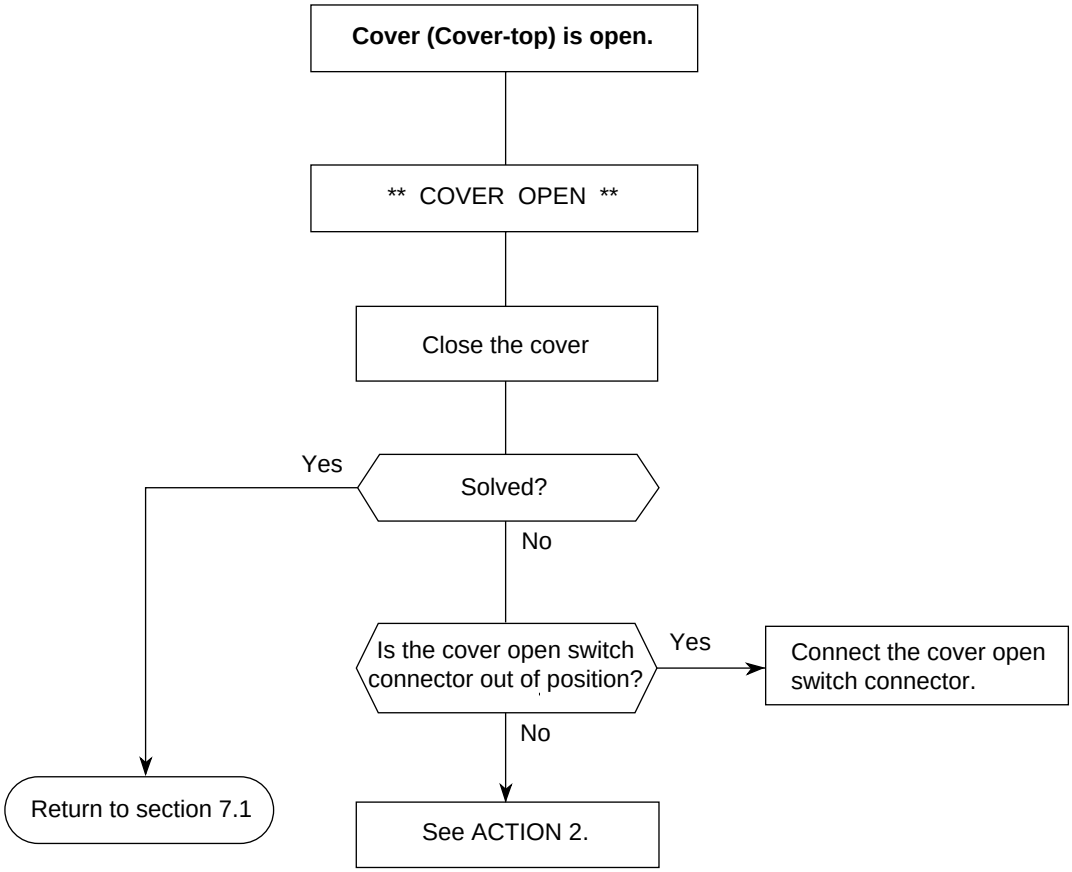

Troubles
Troubles indicated by LCD message
Troubleshoot according to the LCD message trouble list. See Table 7.22.1
Perform detailed troubleshooting with one of troubleshooting flow chart 1 to 6.
Image troubles (Trouble not indicated by LCD messages)
Troubleshoot according to the image trouble list. See Table 7.22.3
Perform trouble-shooting with one of troubleshooting flow chart 7 to 14.

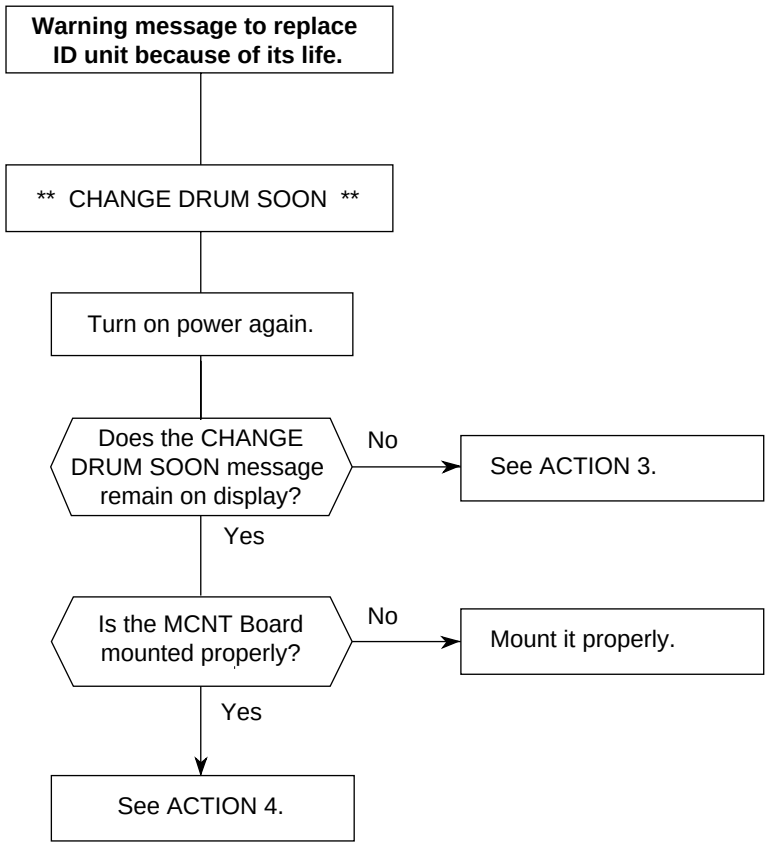
Table 7.22.1 LCD Message Trouble List

Category	LCD message display	Trouble	Troubleshooting flow chart number
Cover open	14:14 COVER OPEN	The cover (cover-top) is open.	1
Image drum alarm	14:14 CHANGE DRUM SOON	Warning message to replace EP unit because of its life.	2
Engine errors	PRINTER ALARM 2 TEL PLEASE CONFIRM	Engine controller error	3
	PRINTER ALARM 4 TEL PLEASE CONFIRM	Fuser unit thermal error	4
Recording paper/ jam error	PAPER OUT/JAM FAX REPLACE PAPER	Recording paper feed jam, transport jam, ejection jam, recording size error	5
Paper cassette request	PAPER OUT/JAM FAX REPLACE PAPER	No recording paper tray or no recording paper	6
Daily status	TONER LOW FAX REPLACE TONER CART.	Toner is running short. ***Note:*** No toner memory RX is ON.	
	14:14 FAX REPLACE TONER CART.	Toner is running short. ***Note:*** No toner memory RX is OFF.	

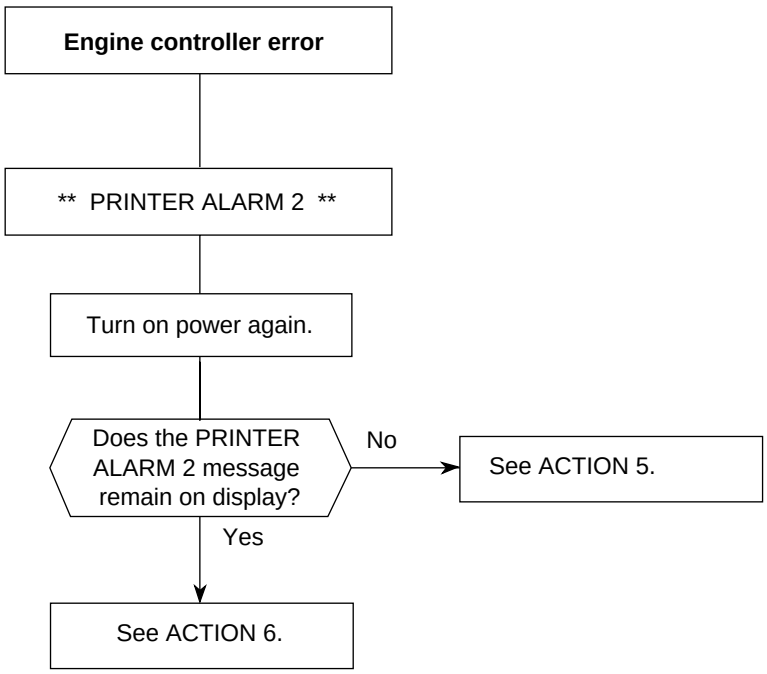
Troubleshooting flow chart 1:



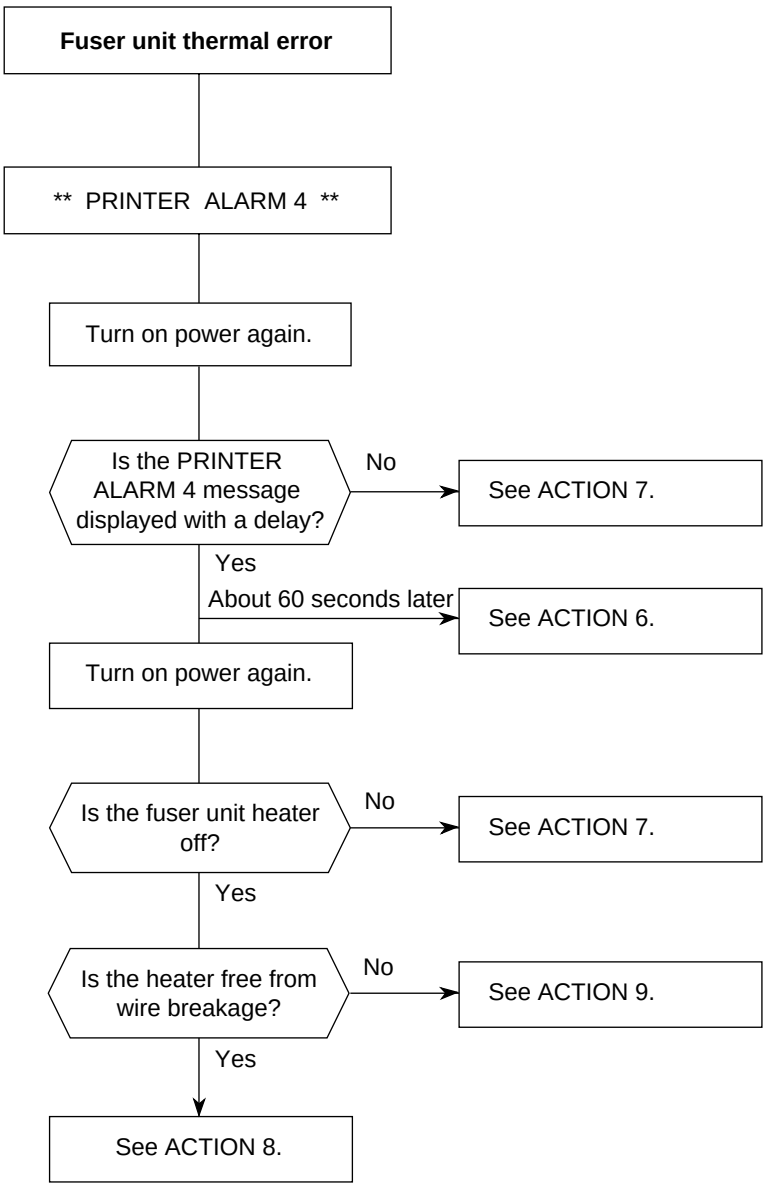
Troubleshooting flow chart 2:



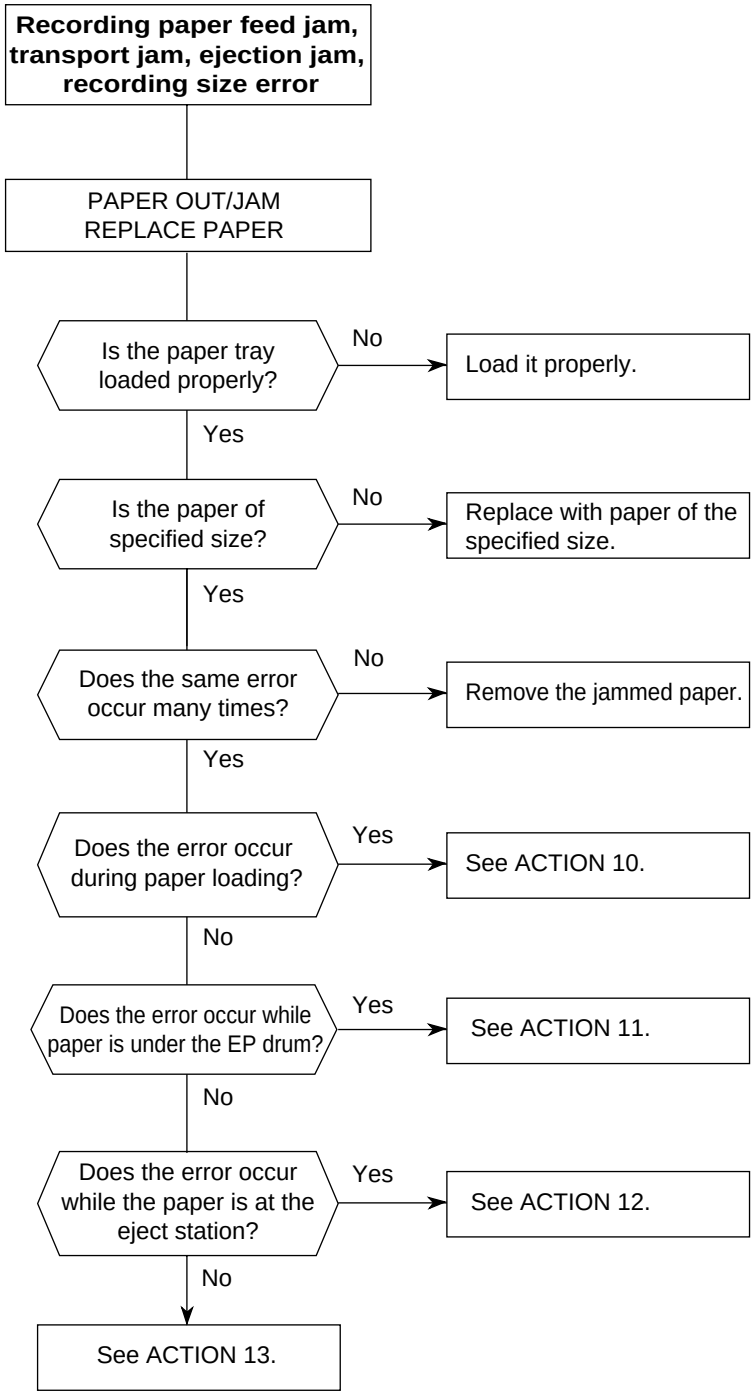
Troubleshooting flow chart 3:



Troubleshooting flow chart 4:



Troubleshooting flow chart 5:



Troubleshooting flow chart 6:
No recording paper tray or not recording paper

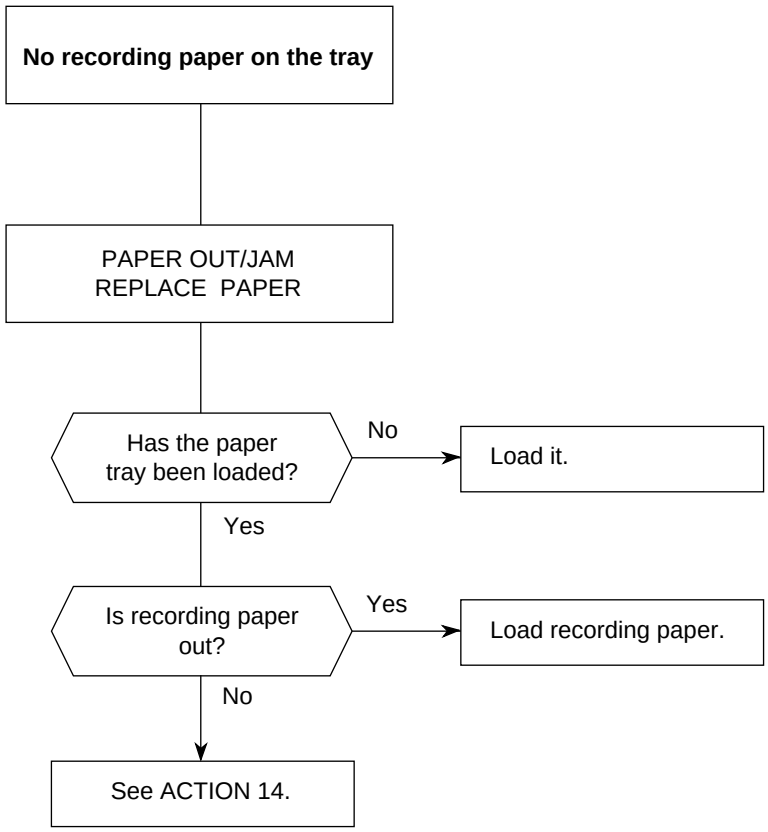


Table 7.22.2 Action Items (Printer Unit-LCD Message)

No.	ACTION	No.	ACTION
1	Check MCNT Board.	8	Check connection between the PWU and the fuser assembly,heater, thermostat.
2	Check P2H/P6L Board cover open switch, cover open switch connection. Check MCNT Board.	9	Check PWU.
3	Return to Section 7.1.	10	Check Sensor-E, magnet-H, hopping roller, pulse motor, MCNT Board, Action of Idle gear-P.
4	Replace the EP Unit. And clear Drum Count, Section 6.3.	11	Check Gear-T, MCNT Board, P2H/P6L Board.
5	Check installation of MCNT board, POWER SUPPLY UNIT board.	12	Check exit sensor lever, PWU
6	Check MCNT Board.	13	Check MCNT Board.
7	Check thermister (resistance of about 200 kilo ohms at room temperature and about 140 kilo ohms at high temperature), POWER SUPPLY UNIT.	14	Check PWU, MCNT board.

Note: V46 board for FX-046VP is shown as MCNT.

Table 7.22.3 Image Troubles

Abnormal Symptom	Reference Figure	Troubleshooting Flow Chart No.
Images are light or blurred as a whole.	Fig.Ⓐ	7
The blank background is smeared.	Fig.Ⓑ	8
Blank paper is output.	Fig.Ⓒ	9
Black belts or black stripes in vertical direction.	Fig.Ⓓ	10
Periodic abnormal printing.	Fig.Ⓔ	11
Some parts not printed.	——	12
White belts or some white stripes in vertical direction.	Fig.Ⓕ	13
Poor fusing (Images are blurred or peeled off when touched by hands)	___	14

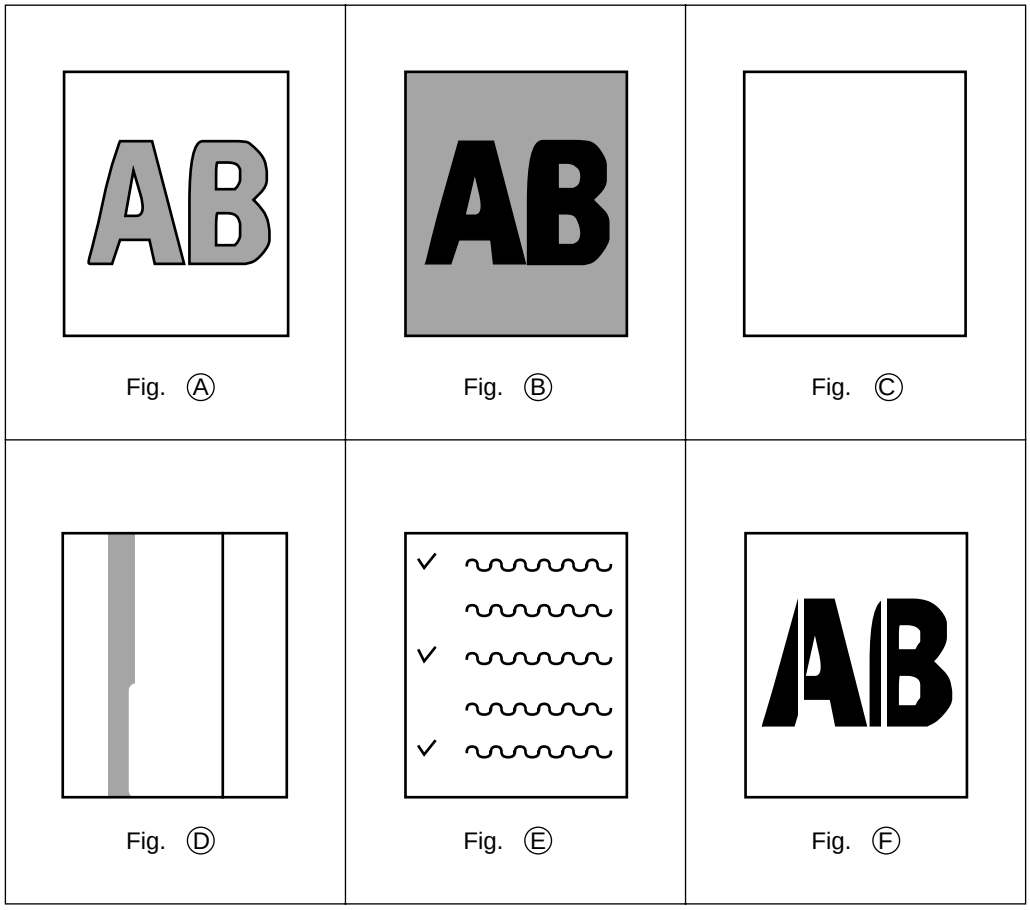
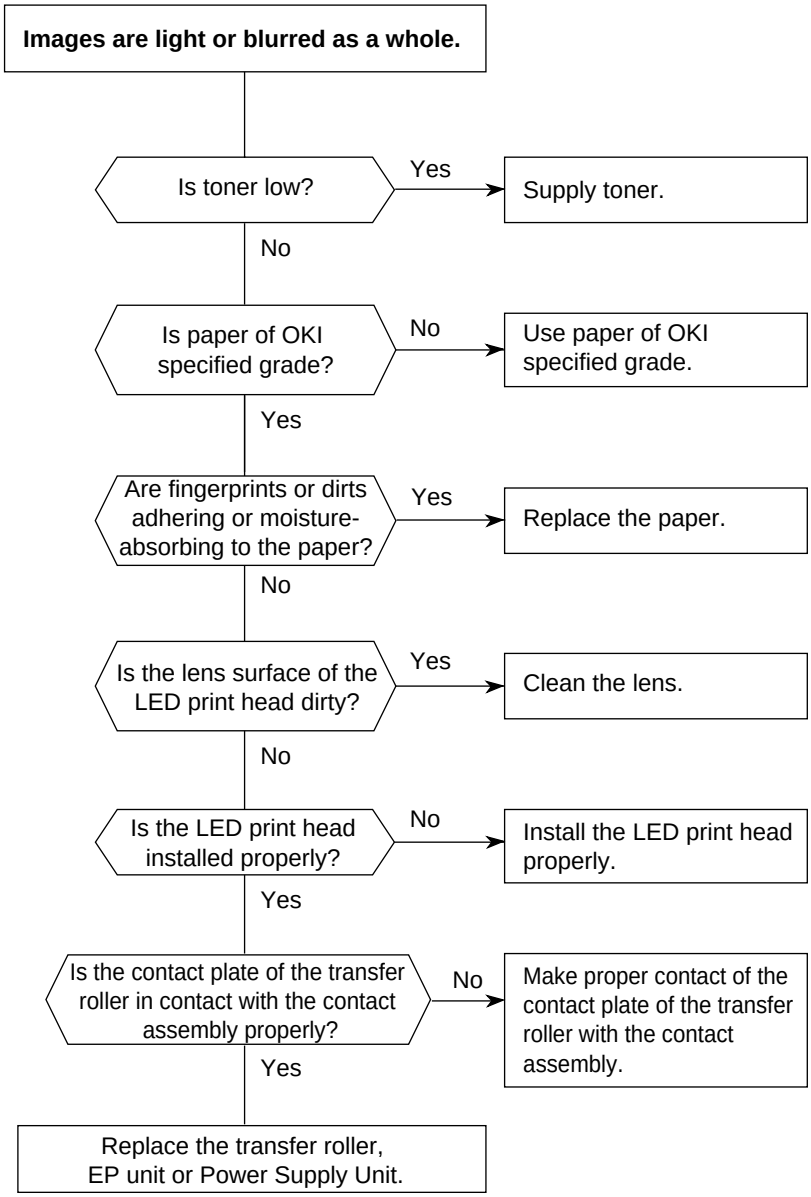
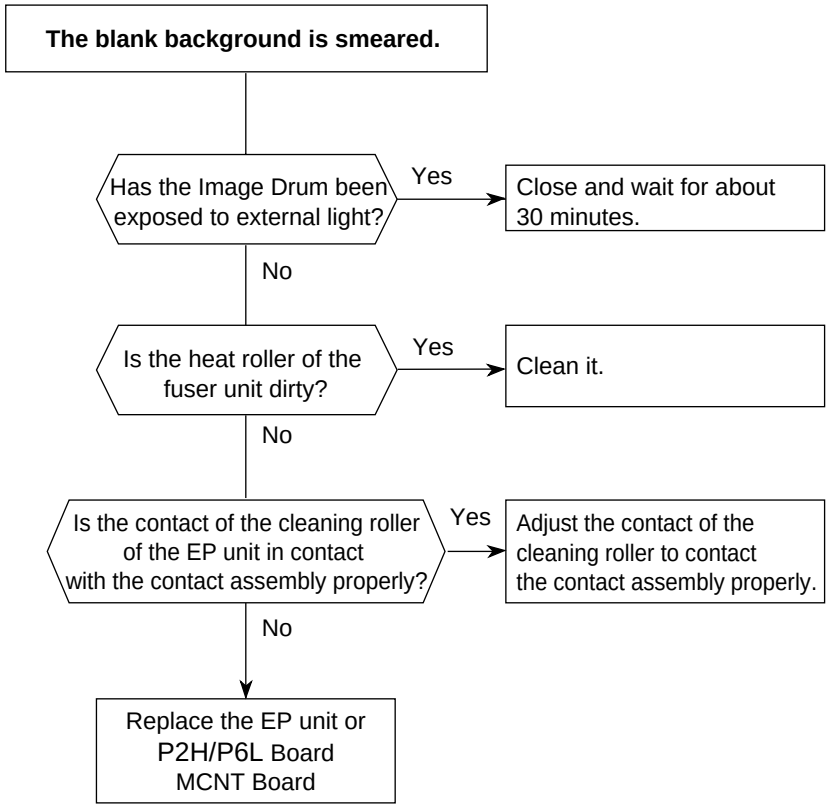


Figure 7.22.1 Abnormal Symptoms of Image Troubles (Example)

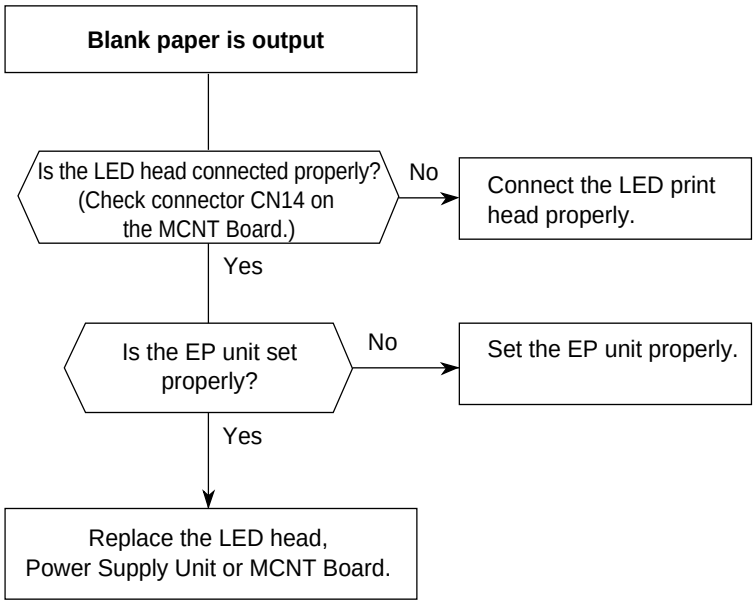
Troubleshooting flow chart 7:


Images are light or blurred as a whole.
Is toner low?
Yes
Supply toner.
No
Is paper of OKI specified grade?
No
Use paper of OKI specified grade.
Yes
Are fingerprints or dirts adhering or moisture-absorbing to the paper?
Yes
Replace the paper.
No
Is the lens surface of the LED print head dirty?
Yes
Clean the lens.
No
Is the LED print head installed properly?
No
Install the LED print head properly.
Yes
Is the contact plate of the transfer roller in contact with the contact assembly properly?
No
Make proper contact of the contact plate of the transfer roller with the contact assembly.
Yes
Replace the transfer roller, EP unit or Power Supply Unit.

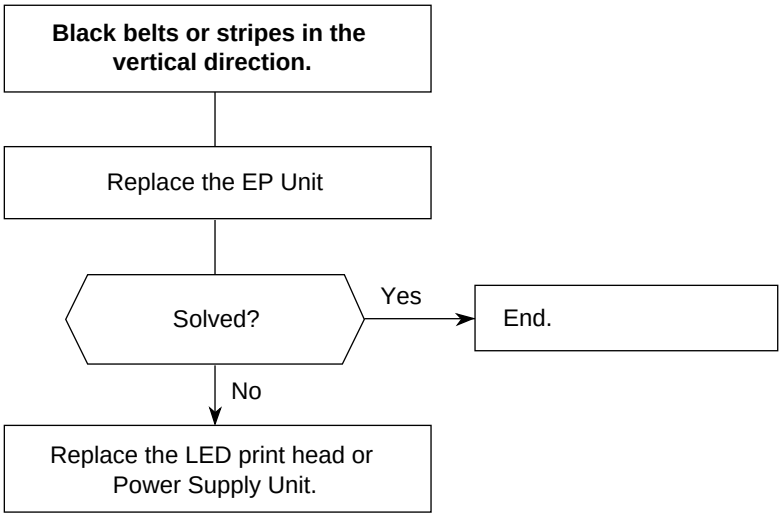
Troubleshooting flow chart 8:


The blank background is smeared.
Has the Image Drum been exposed to external light?
Yes
Close and wait for about 30 minutes.
No
Is the heat roller of the fuser unit dirty?
Yes
Clean it.
No
Is the contact of the cleaning roller of the EP unit in contact with the contact assembly properly?
Yes
Adjust the contact of the cleaning roller to contact the contact assembly properly.
No
Replace the EP unit or
P2H/P6L Board
MCNT Board

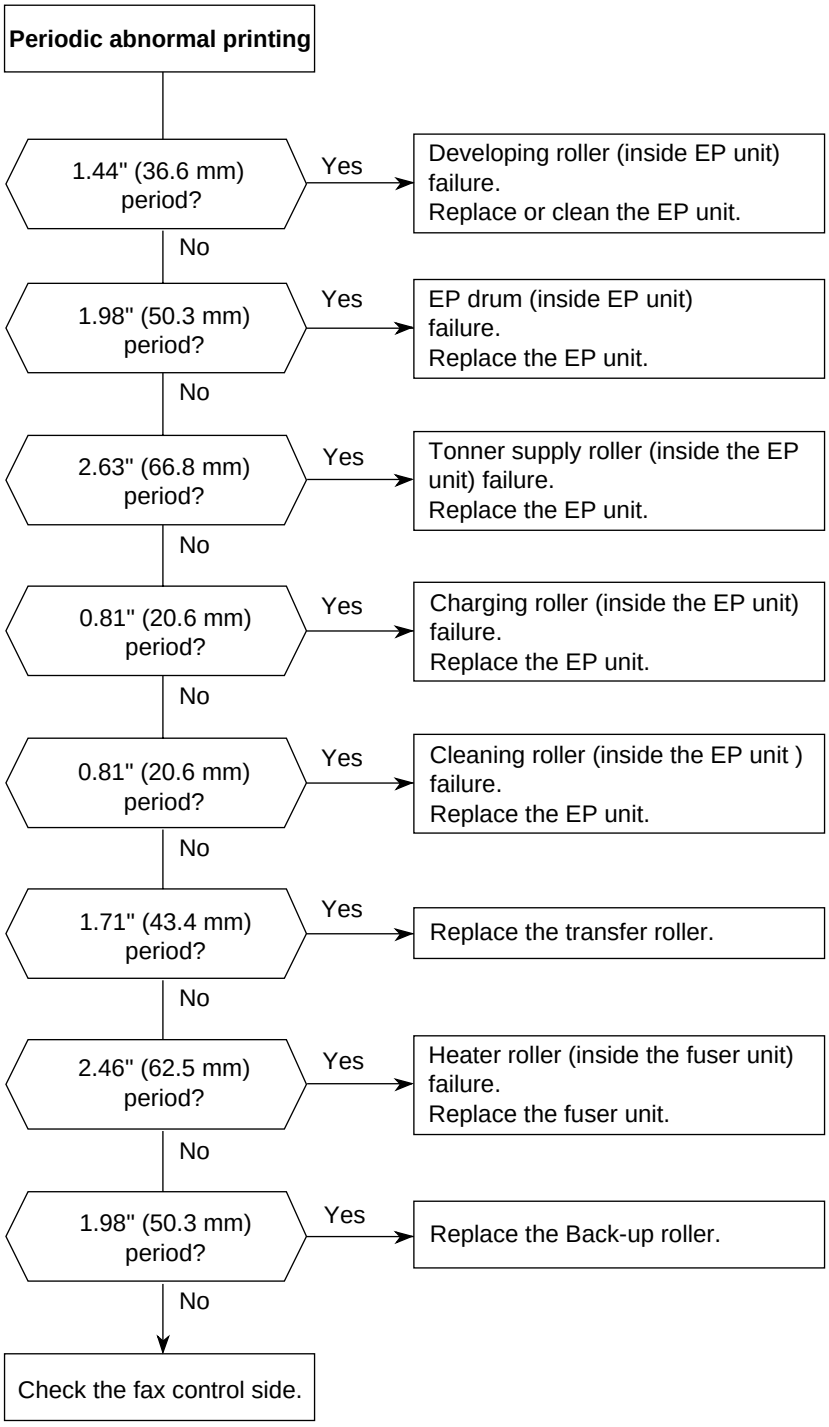
Troubleshooting flow chart 9:


Blank paper is output
Is the LED head connected properly? (Check connector CN14 on the MCNT Board.)
No
Connect the LED print head properly.
Yes
Is the EP unit set properly?
No
Set the EP unit properly.
Yes
Replace the LED head,
Power Supply Unit or MCNT Board.

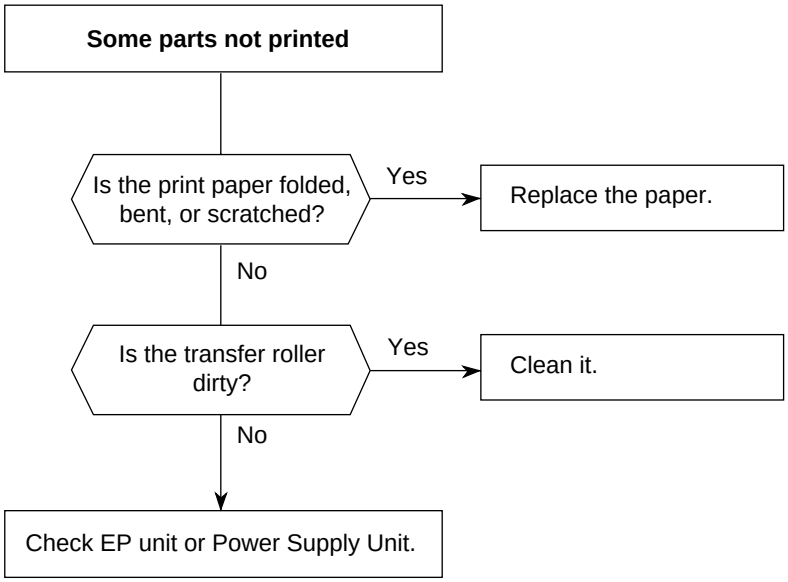
Troubleshooting flow chart 10:



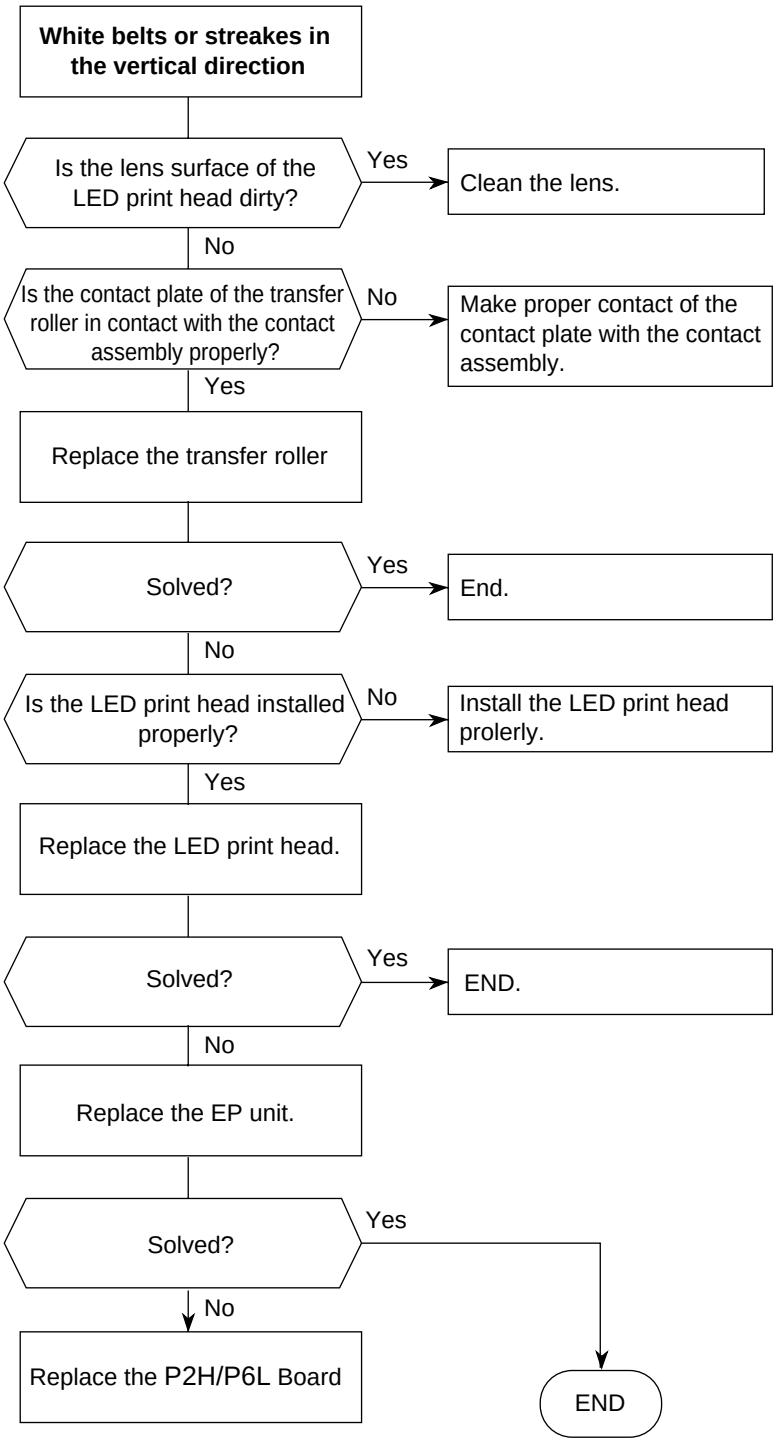
Troubleshooting flow chart 11:



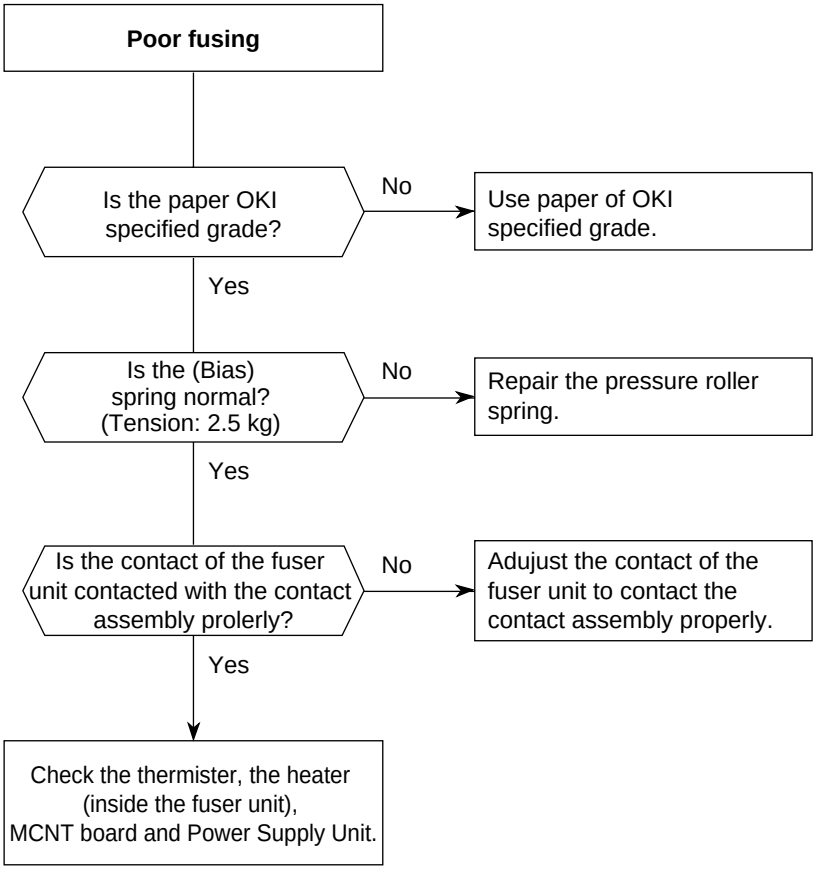
Troubleshooting flow chart 12:



Troubleshooting flow chart 13:



Troubleshooting flow chart 14:


Poor fusing
Is the paper OKI specified grade?
No
Use paper of OKI specified grade.
Yes
Is the (Bias) spring normal? (Tension: 2.5 kg)
No
Repair the pressure roller spring.
Yes
Is the contact of the fuser unit contacted with the contact assembly prolerly?
No
Adujust the contact of the fuser unit to contact the contact assembly properly.
Yes
Check the thermister, the heater (inside the fuser unit), MCNT board and Power Supply Unit.

8. DIPSWITCHS SETTING TABLES FOR EN9/EN2/INU NCU BOARDS

EN9/EN2 (Setting as of Jan. 25, 2000)

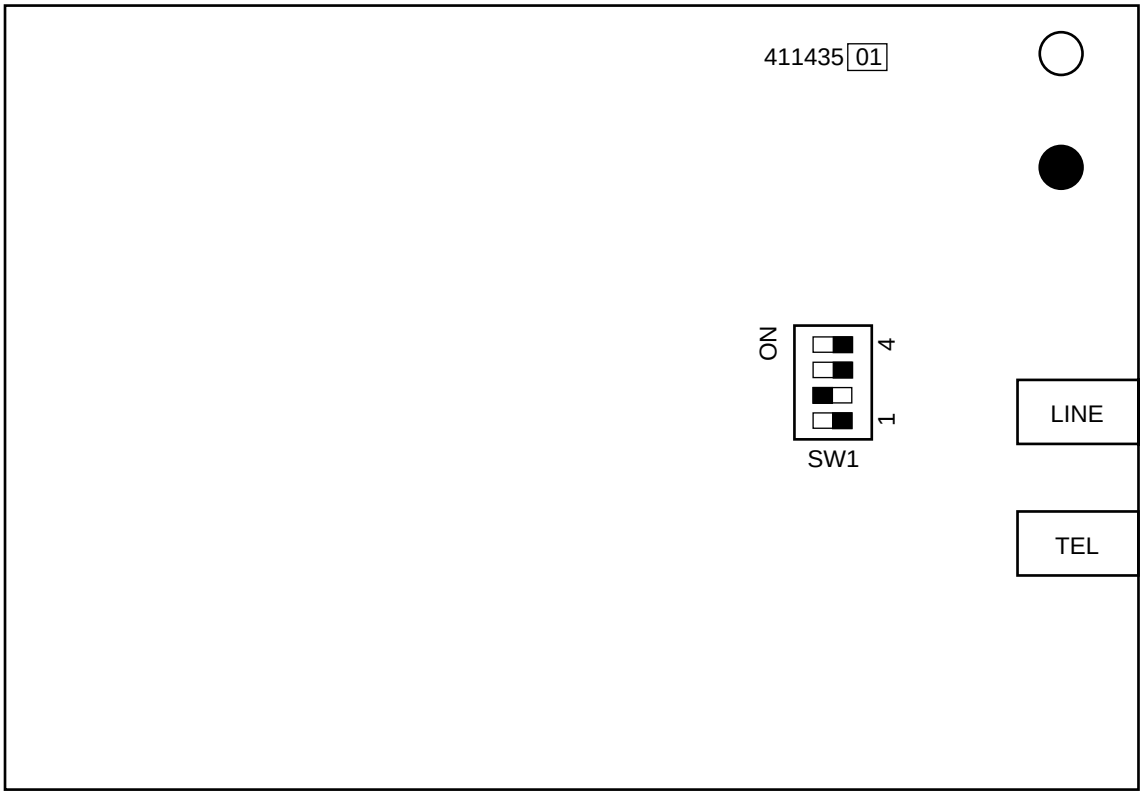
Each country's hardware parameters comparison table.

Dip-switch No.		EC countries (except UK and France)	UK	France	Remarks
SW1	1	OFF	ON	ON	Shunt wire
	2	ON	OFF	ON	Ring detection
	3	OFF	ON	ON	Ring detection
	4	OFF	OFF	OFF	Not used

1 EC Countries (except UK and France) (41143501)

This section gives the following instruction.
- DIP switch setting
- Screw tightening position (a black dot)

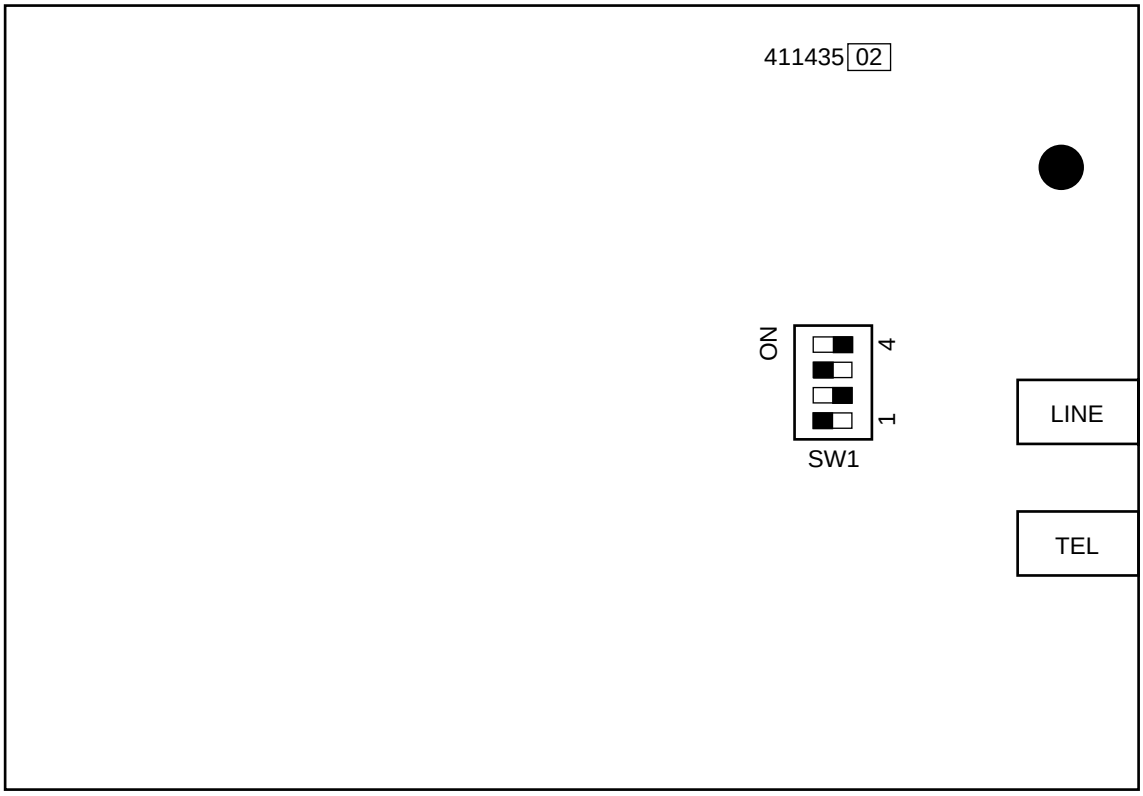
For detail, see the figure below.



2 UK (41143502)

This section gives the following instruction.
- DIP switch setting
- Screw tightening position (a black dot)

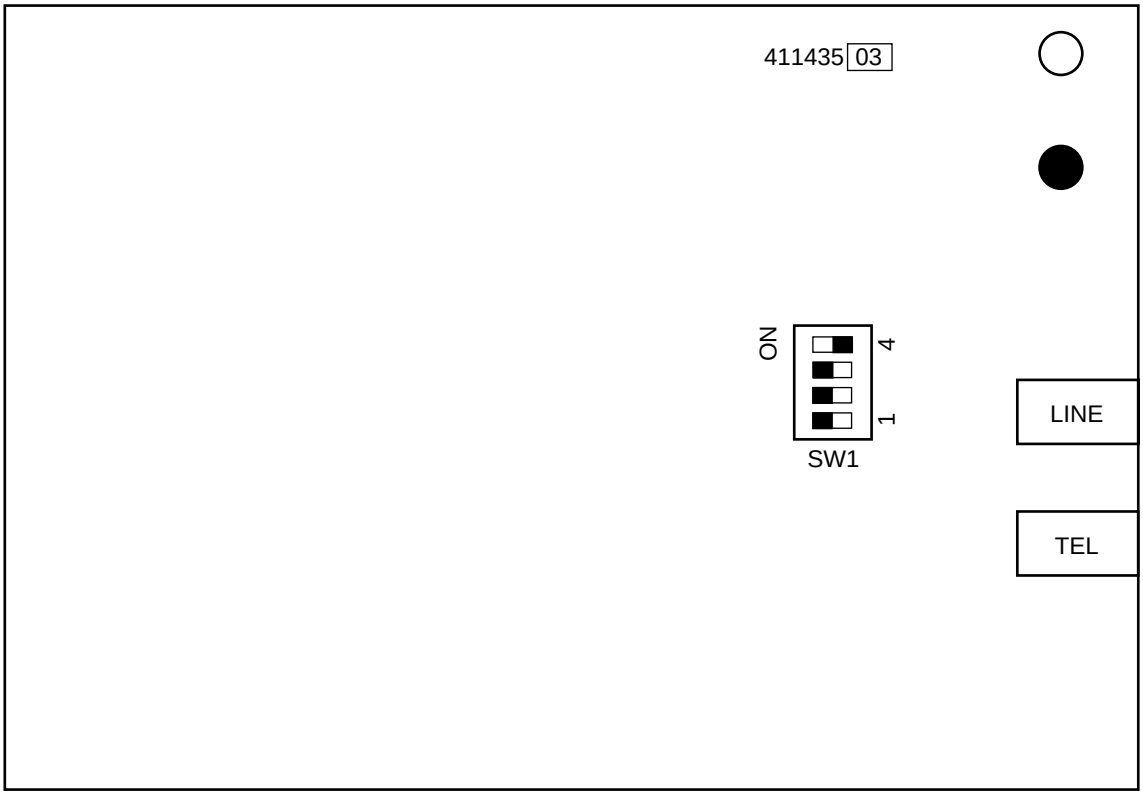
For detail, see the figure below.



3 France (41143503)

This section gives the following instruction.
- DIP switch setting
- Screw tightening position (a black dot)

For detail, see the figure below.



INU (Setting as of Jan. 25, 2000)

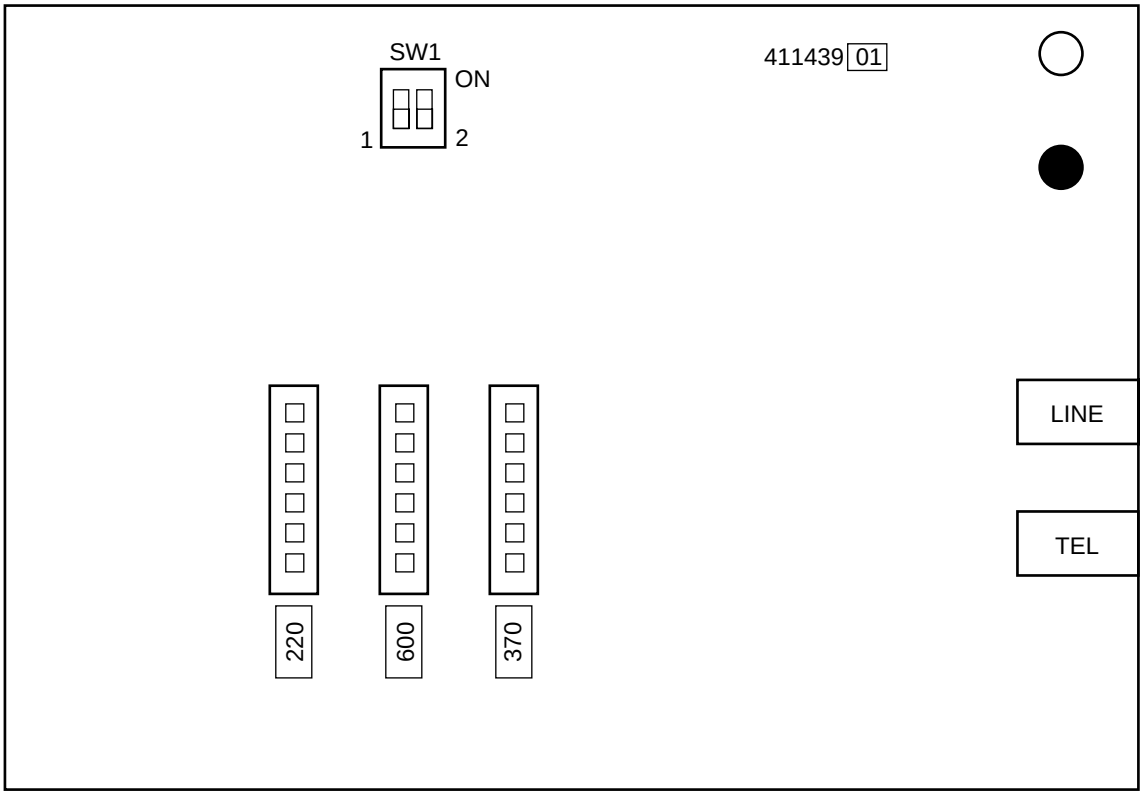
Each country's hardware parameters comparison table.

Dip-switch No.		USA Canada	Australia	New Zealand	Singapore China Malaysia	Poland (non-EC countries)	Remarks
SW1	1		ON	ON	ON	OFF	Ring Impedance
	2		OFF	OFF	OFF	ON	Ring Impedance

1 US, Canada (41143901)

This section gives the following instruction.
- Screw tightening position (a black dot)

For detail, see the figure below.

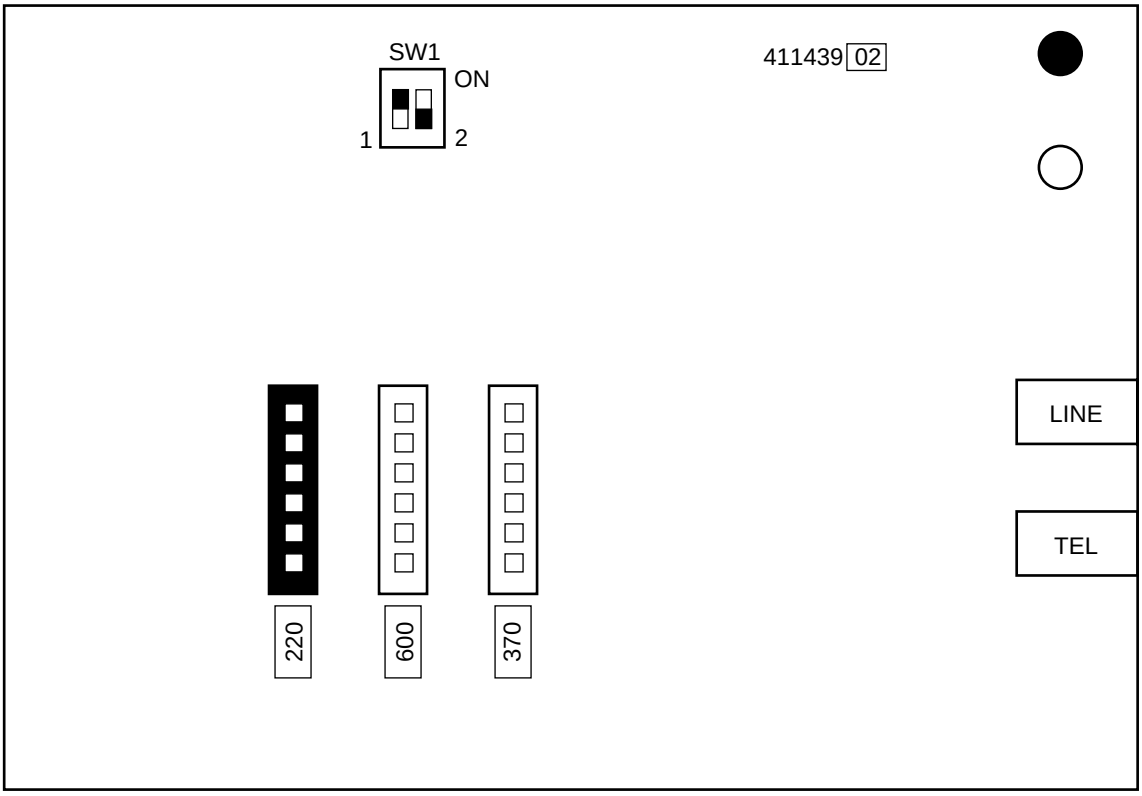


* Connector for short-plug and SW1 are not mounted.

2 Australia (41143902)

This section gives the following instruction.
- DIP switch setting
- Short-plug location
- Screw tightening position (a black dot)

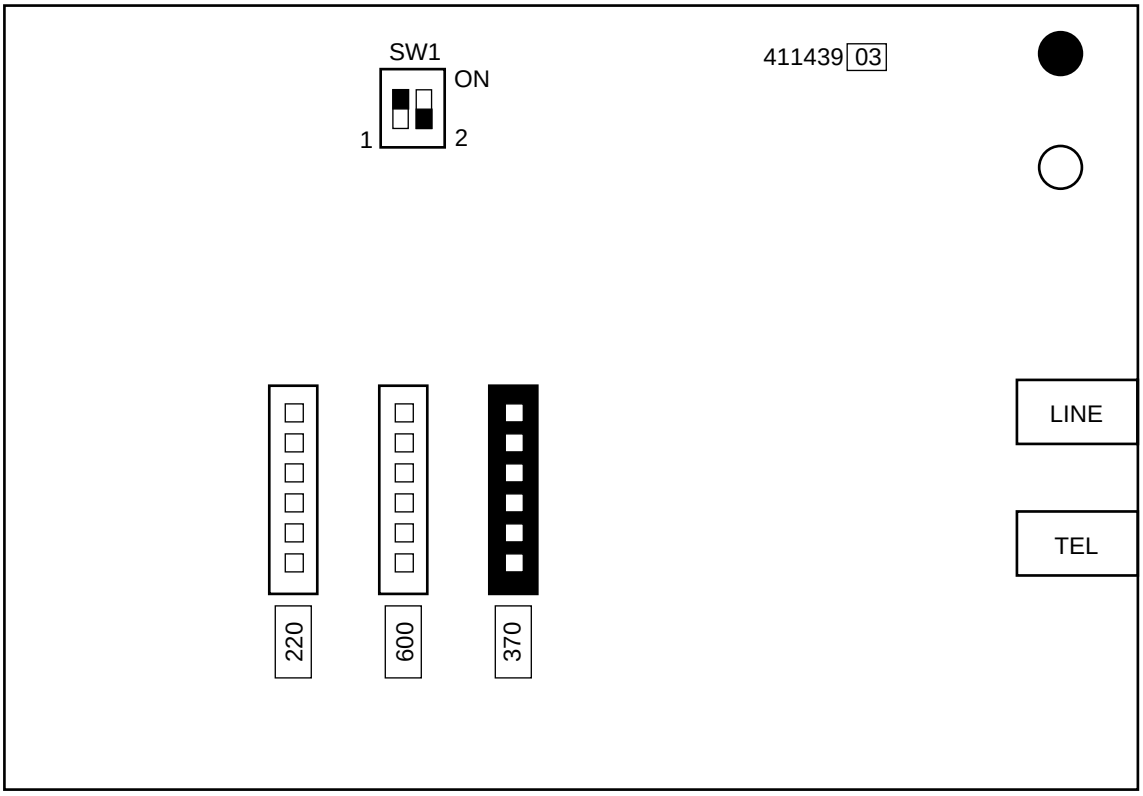
For detail, see the figure below.



3 New Zealand (41143903)

This section gives the following instruction.
- DIP switch setting
- Short-plug location
- Screw tightening position (a black dot)

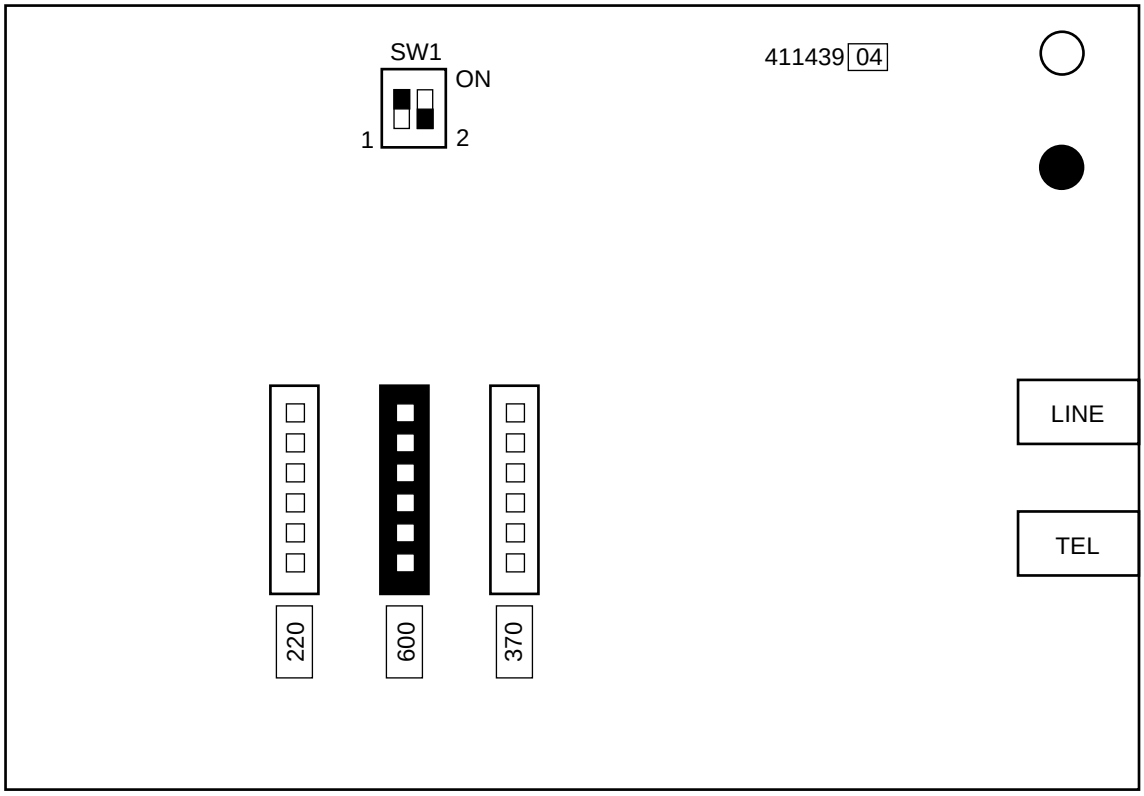
For detail, see the figure below.



4 Singapore, China, Malaysia (41143904)

This section gives the following instruction.
- DIP switch setting
- Short-plug location
- Screw tightening position (a black dot)

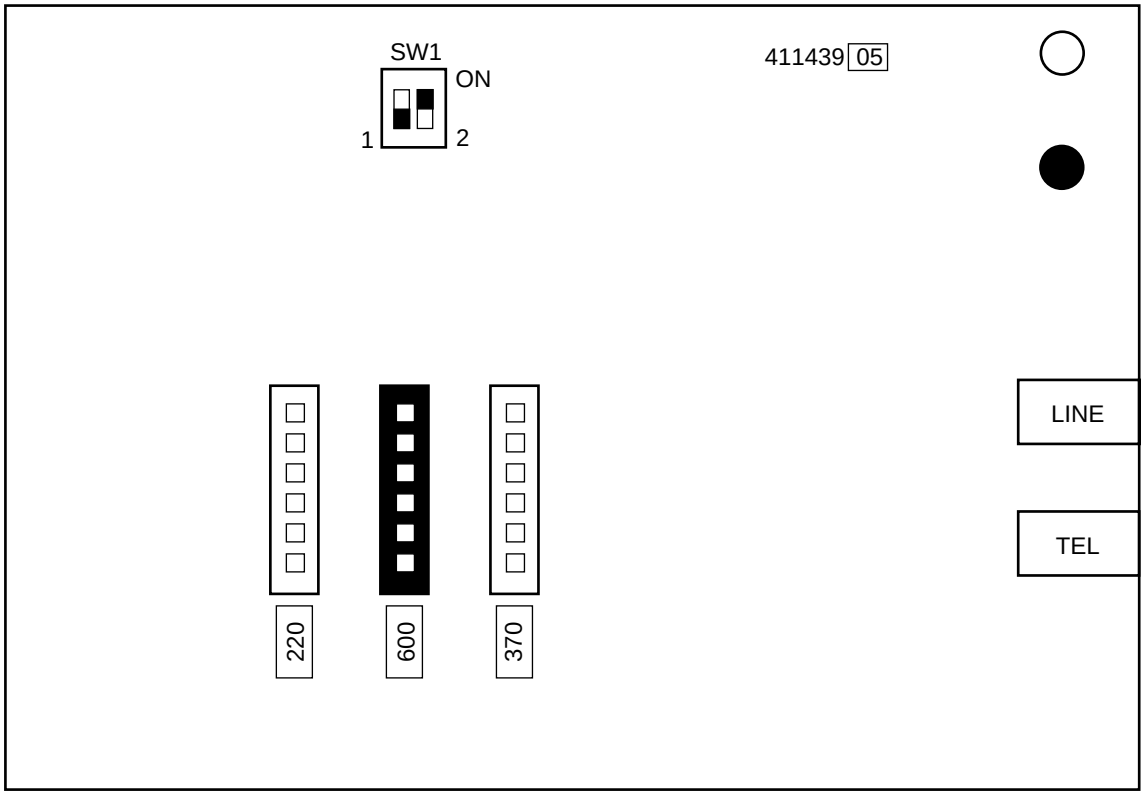
For detail, see the figure below.



5 Poland (non-EC countries) (41143905)

This section gives the following instruction.
- DIP switch setting
- Short-plug location
- Screw tightening position (a black dot)

For detail, see the figure below.



APPENDIX A PC BOARD DESCRIPTIONS AND OPERATION

1. Unit Configuration and Block Diagram

FX-046VP ASSEMBLY

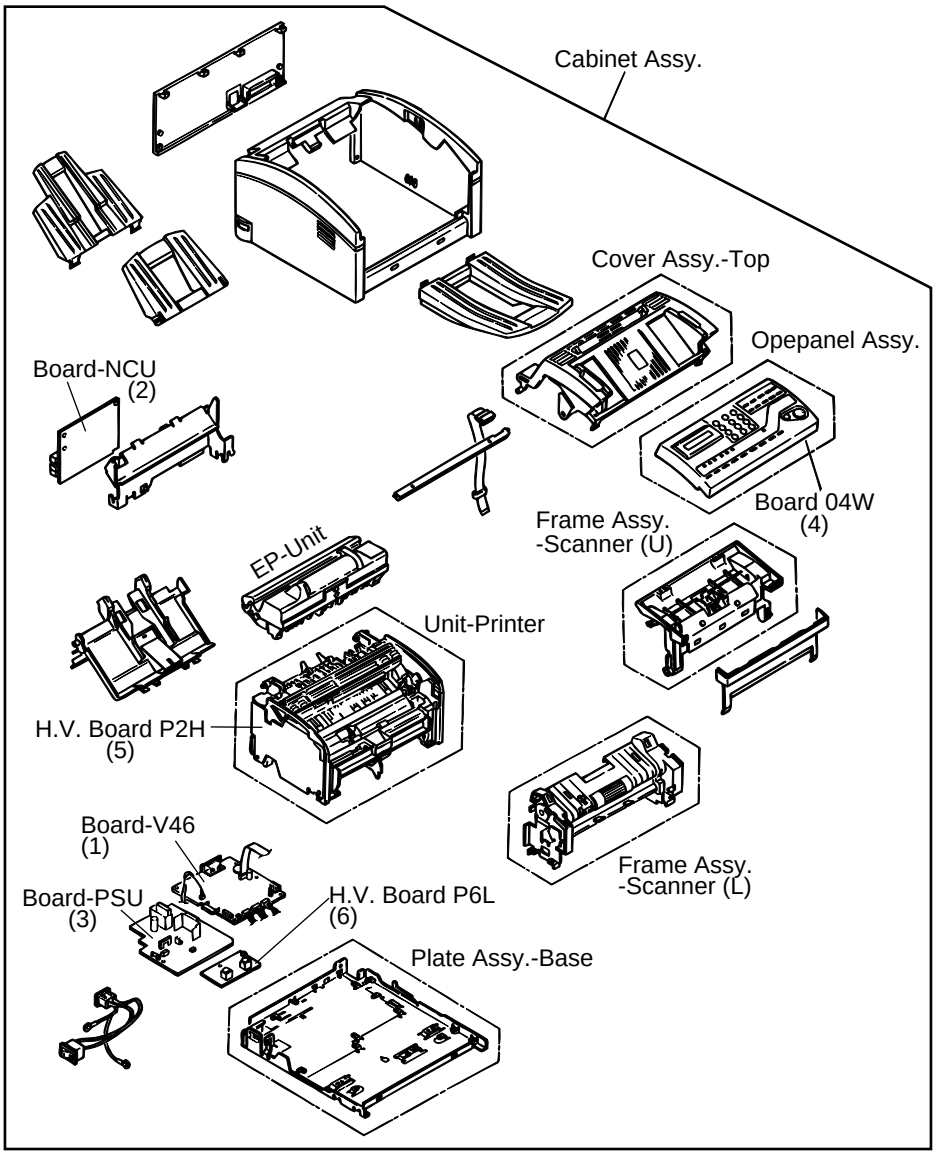


Figure A.1 Unit Configuration (Modifying)

(1) Main control board (V46)
(2) Network control unit (NCU)
(3) Power supply unit (MPW1446 (230V), MPW1546 (120V)
(4) Operation panel board (04W)
(5) High Voltage Board (P2H)
(6) High Voltage Board (P6L)

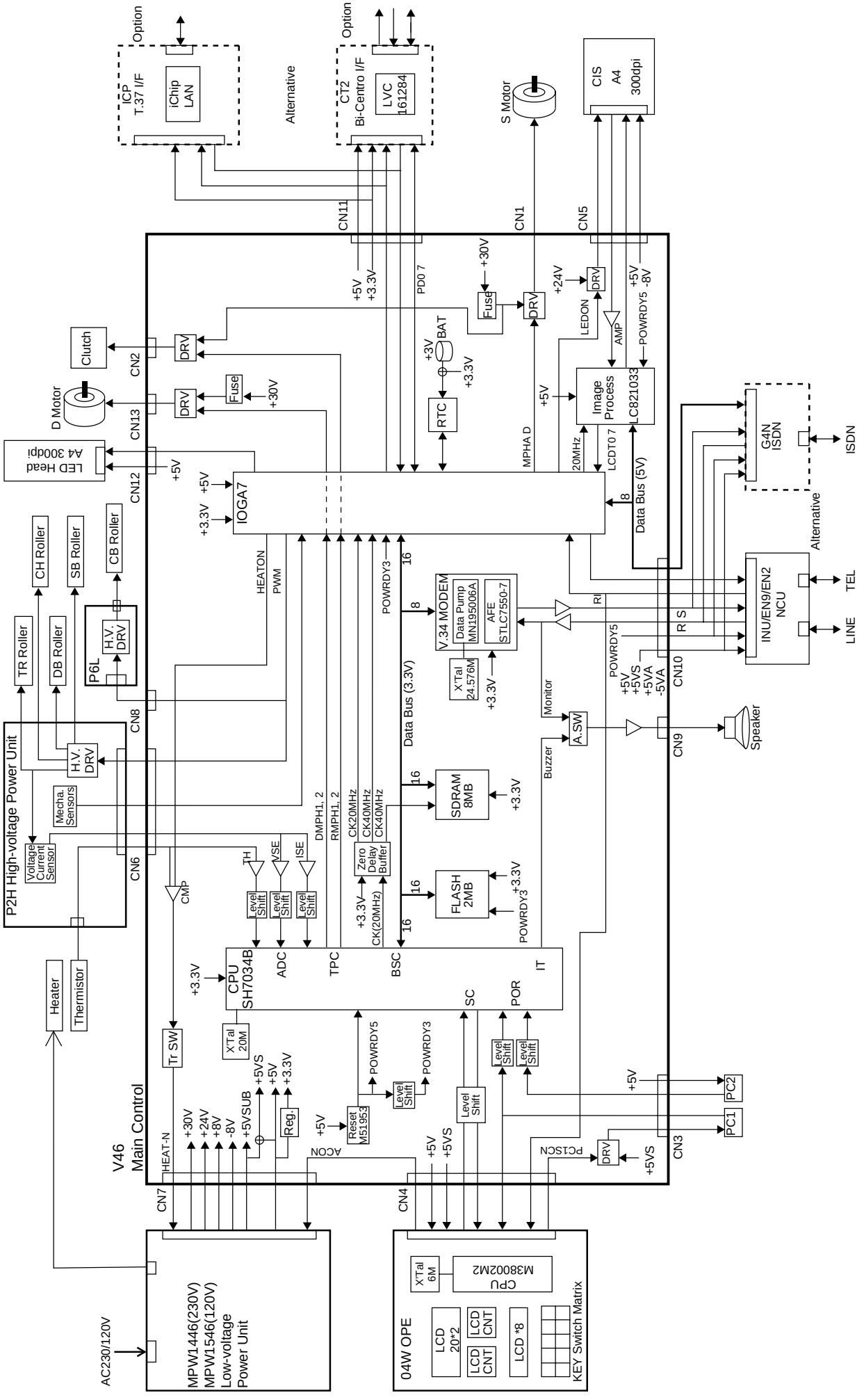


Figure A.2 FX-046VP Block Diagram

1.1 The unit configuration is as follows:

Meaning of abbreviations used in Block Diagram

AMP	: Amplifier
A.SW	: Analog switch
BAT	: Battery
CIS	: Contact image sensor
CNi	: Connector number i
CPU	: Central processing unit
D Motor	: Drum motor
DRV	: Motor drive
LC821033	: Image process
FLASH	: Flash memory
IOGA7	: Input output gate array
PCi	: Photocoupler number i
Reg	: Regulator
RTC	: Real time clock
SDRAM	: Synchronous Dynamic random-access memory
S Motor	: Send motor
X’tal	: Crystal oscillator

1.2 Function of Each Unit

The section describes the principal functions of the individual units of the FX-046VP electrical sections.

Figure A.2 shows the pertinent block diagram.

(1) V46 board
- CPU SH7034B
  Basic processor
  CPU periheral functions
- IOGA7 (Input/output gate array 7)
  Scanned data DMA control
  Printing control
  Peripheral input/output control
- Flash memory (Instead of EP-ROM and SRAM)
  Memory storage for program code
  Memory storage for user/service setting data
- SDRAM
  Memory storage for ECM operations, memory broadcast, delayed broadcast, etc.
- Back-up battery circuit
- Real-time clock IC
- Audio monitor circuit
- Contact image sensor control
- LC821033
  Image data processing
  Memory storage for image picture data
- Supervision of the following external statuses:
  Presence of document on hopper
  Presence of document at scanning position
- Send motor control
- Drum motor control
- Modem chip
  Modulation and demodulation for V.34
  Modulation and demodulation for V.33 and V.17
  Modulation and demodulation for V.29 and V.27 ter
  Modulation and demodulation for V.21
  Generation of single-frequency signals for tonal signals
  Detection of single-frequency tonal signals
  Generation of dual time multiple-frequency signals for tone dialing

(2) Operation panel unit: O4W board
- Supervision of switches on operation panel
- Control of LEDs on operation panel
- Control of LCD on operation panel

LED : Light-emitting diode
LCD : Liquid crystal display

(3) NCU board

INU-US	For US and Canada
EN9/EN2	For Denmark, Norway, Sweden, Finland, The Netherlands, ireland, portugal, Belgium, Spain, Greece and Other countries, Germany, Switzerland and Austria, France and UK
INU-INT	For New Zealand, Australia and Other countries

- Conversion of receive data and receive signals to internal signal level
- Conversion of send data and send signals to external signal level
- Generation of dial pulses to telephone line
- Detection of ringing signal
- Detection of busy tone (conjunction with Modem unit)
- Detection of hook up signal
- Interface with telephone handset (option)
- Output of send data and send signals to telephone line
- Input of receive data and receive signals from telephone line

(4) Power supply unit: MPW1446 (230V)/MPW1546 (120V), P6L, P2H

- Conversion of main alternating current to the following direct currents:
  +5V DC power supply
  -8V DC power supply
  +24 V DC power supply
  +30 V DC power supply
- Supplying of main alternating current to fuser unit
- Generation of medium voltages +300V, -300V, +400V, -450V and 0V
- Generation of high voltages -1.35 kV, -0.75 kV and +3.5 kV

(5) G4N board (Option)

- ISDN Communications

(6) CT2 board (Option)

- Driver Circuit

(7) ICP board (Option)

- Internet FAX Communications

2. Explanation of Signal Flow

(1) Copy Mode

Figure A.3 (1/15) shows the picture signal route in local copy mode

One-line picture data is transferred to operational amplifier from the scanning unit (CIS: contact image sensor) as an analog data. The picture data is sent to LC821033 (image processing LSI). Here, the picture data undergoes various kinds of picture processings (LC821033), converted to two-level binary data (black and white) and then sent to IOGA7 (scanning control). The one-line binary picture data from IOGA7 is stored into SDRAM. When the data for one page has been stored in the SDRAM, the data is read out from the SDRAM and sent to IOGA7. The data is converted into a serial data by the picture control of IOGA7 and transferred to the LED print head for printing as HDATA0. Writing of data into the page memory is also possible during the printing operation.

(2) G3 Send Mode

Figure A.3 (2/15) shows the G3 send picture signal route

In the G3 mode, the data transfer route from the scan unit up to the SDRAM is the same as in the copy mode described in (1).

The picture data for one-line is transferred from SDRAM to CPU. The CPU performs the picture data processing (encode) for this picture data (FILLER, fill bits are inserted etc.) and again stores into the SDRAM. The stored encoded data is output from SDRAM to the MODEM under the control of CPU. After modulation, the picture signal “S” is sent to the NCU board as the transmission data. The transmission data “S” goes through the amplifier and is sent to the telephone line L1 and L2 via the transformer T1 as high speed signal.

(3) G3 Receive Mode

Figure A.3 (3/15) shows the G3 receive picture signal route

In the G3 mode, the high-speed picture signal arriving from the telephone line at L1 and L2 of NCU passes through the transformer T1 and the amplifier and is input to the MODEM as “R” signal. After demodulation by modem, the picture data is sent to CPU. The CPU performs the picture data processing (decode) for this picture data and stores into the SDRAM. Then, the stored picture data is again written into SDRAM (as a page memory) by the picture processing control of IOGA7. When the data for one page has been stored in the SDRAM, the data is read out from the SDRAM and sent to IOGA7. The picture data is converted into a signal data by the printer control of IOGA7 and transferred to the LED print head for printing as HDATA0.

(4) PC Print

Figure A.3 (4/15) shows the signal route in PC Print mode.

The data input from the V46's parallel I/F is input, through the IOGA7, to the SDRAM using DMA.

The input data is transferred to the Decoding block in the IOGA7 using DMA.

In the Decoding block, the data is expanded in the 1-line raster buffer in the IOGA7. Then, the expanded data is sent to the video block in the IOGA7 in response to a 1-line synchronous signal.

In the video block, image processing is performed for printing and the resultant data is transferred to the LED head.

(5) PC Scanner

Figure A.3 (5/15) shows the signal route in PC Scanner mode.

The data transfer route from the scan unit up to the SDRAM is the same as in the copy mode described in (1).

The data input to the IOGA7 is temporarily written into the external SDRAM.

The written data is compressed to TIF data by firmware, then written into the external SDRAM again.

The written TIF data is sent to the V46's parallel I/F through the IOGA7.

(6) PC-FAX TX

Figure A.3 (6/15) shows the signal route in PC-FAX TX mode.
The data encoded and HDLC framed in PC is input to IOGA7 via the parallel I/F to be transferred to the SDRAM under the control of DMA.
The stored encoded data is output from SDRAM to the MODEM under the control of CPU. After modulation, the picture signal "S" is sent to the NCU board as the transmission data. The transmission data "S" goes through the amplifier and is sent to the telephone line L1 and L2 via the transformer T1 as high speed signal.

(7) PC-FAX RX

Figure A.3 (7/15) shows the signal route in PC-FAX RX mode.
In the PC-FAX RX mode, the high-speed picture signal arriving from the telephone line at L1 and L2 of NCU passes through the transformer T1 and the amplifier and is input to the MODEM as "R" signal. After demodulation by modem, received binary data is sent from the MODEM to SDRAM, under the control of CPU.
The data written into the SDRAM is transferred to the IOGA7 by the DMA to be output to PC via parallel I/F. The PC deframes and decodes the received data to convert it into image data.

(8) ISDN-G3 TX mode

Figure A.3 (8/15) shows the signal route of this mode.
The signal route from the image sensor to the LC821033, SDRAM, CPU, IOGA7 and MODEM is the same as that of the item (2), “G3 send mode”. The analog signal “S” encoded and modulated in the MODEM is sent to the G4N board as the send signal. The analog signal is converted into the digital signal by the PCM codec on the G4N board to be sent to an ISDN line.

(9) ISDN-G3 RX mode

Figure A.3 (9/15) shows the signal route of this mode.
The high-speed digital image signal received from an ISDN line is converted to analog signal by the PCM Codec on the G4N board. The converted analog signal is then input to the modem on the MCNT as “R” signal. The signal route from the modem to the LED head is the same as that of the item (3) “G3 receive mode”.
The signal demodulated by the modem is decoded by the CPU and stored into the SDRAM. The signal is then converted into print data by the IOGA7 (printer control) to be transferred to the LED head as HDATA0.

(10) ISDN PC-FAX G3 TX mode

Figure A.3 (10/15) shows the signal route of this mode.
The signal route from the PC to the modem is the same as that described in item (6) “PC-FAX TX”. The data encoded and HDLC framed in the PC is transferred to the SDRAM via the parallel I/F, IOGA7 and DMA. The signal is then transferred to the modem by the CPU.
The modulated analog signal “S” is sent to the G4N board, where the signal is converted into digital signal to be output to an ISDN line.

(11) ISDN PC-FAX G3 RX MODE

Figure A.3 (11/15) shows the signal route of this mode.
The high-speed digital image signal received from an ISDN line is converted to analog signal by the PCM Codec on the G4N board. The converted analog signal is then input to the modem on the MCNT as “R” signal. The signal route from the modem to PC is the same as that of the item (7) “PC-FAX RX”.
The received binary data demodulated by the modem is sent to the SDRAM via the CPU and transferred to the IOGA7 by the DMA to be output to the PC via parallel I/F. The PC deframes and decodes the received data to convert it into image data.

(12) G4 TX mode

Figure A.3 (12/15) shows the signal route of this mode.
The signal route from the image sensor to the LC821033, SDRAM, IOGA7, CPU, and SDRAM is the same as that of the item (2), “G3 send mode”.
The read one-line image data is stored in the SDRAM, encoded by the CPU and again stored in the SDRAM.
In G4 TX mode the encoded data is transferred by the control of CPU to the dual-port RAM(DPRAM) on the G4N board. The transferred data is sent to a line via the ISDN controller and ISDN driver by the control of the CPU on the G4N board.

(13) G4 RX mode

Figure A.3 (13/15) shows the signal route of this mode.
The signal received from an ISDN line is transferred to the dual-port RAM (DPRAM) by the control of the CPU via the ISDN driver and ISDN controller of the G4N board.
Notified of the existence of received G4 data by interruption, the CPU of the V46 board transfers the data from the DPRAM to the SDRAM.
The signal route from the SDRAM to the LED head is the same as that of item (3) “G3 receive mode”.
The CPU reads out the data stored in the SDRAM and decodes it to store it again in the SDRAM.
The data is transferred to the IOGA7 (printer control) by the DMA, converted into image data, and transferred to the LED head for printing.

(14) Internet FAX TX mode

Figure A.3 (14/15) shows the signal route of this mode.
The signal route from the image sensor to the LC821033, SDRAM, IOGA7, CPU, and SDRAM is the same as that of the item (2), “G3 send mode”.
The read one-line image data is stored in the SDRAM, encoded by the CPU and again stored in the SDRAM.
In Internet FAX TX mode the encoded data is transferred by the control of CPU to the ICP board via IOGA7. The transferred data is sent to LAN via the i Chip LAN on the ICP board.

(15) Internet FAX RX mode

Figure A.3 (15/15) shows the signal route of this mode.
The signal received from LAN is transferred to IOGA7 via the i Chip LAN on the ICP board.
The CPU of the V46 board transfers the data from the IOGA7 to the SDRAM.
The signal route from the SDRAM to the LED head is the same as that of item (3) “G3 receive mode”.
The CPU reads out the data stored in the SDRAM and decodes it to store it again in the SDRAM.
The data is transferred to the IOGA7 (printer control) by the DMA, converted into image data, and transferred to the LED head for printing.

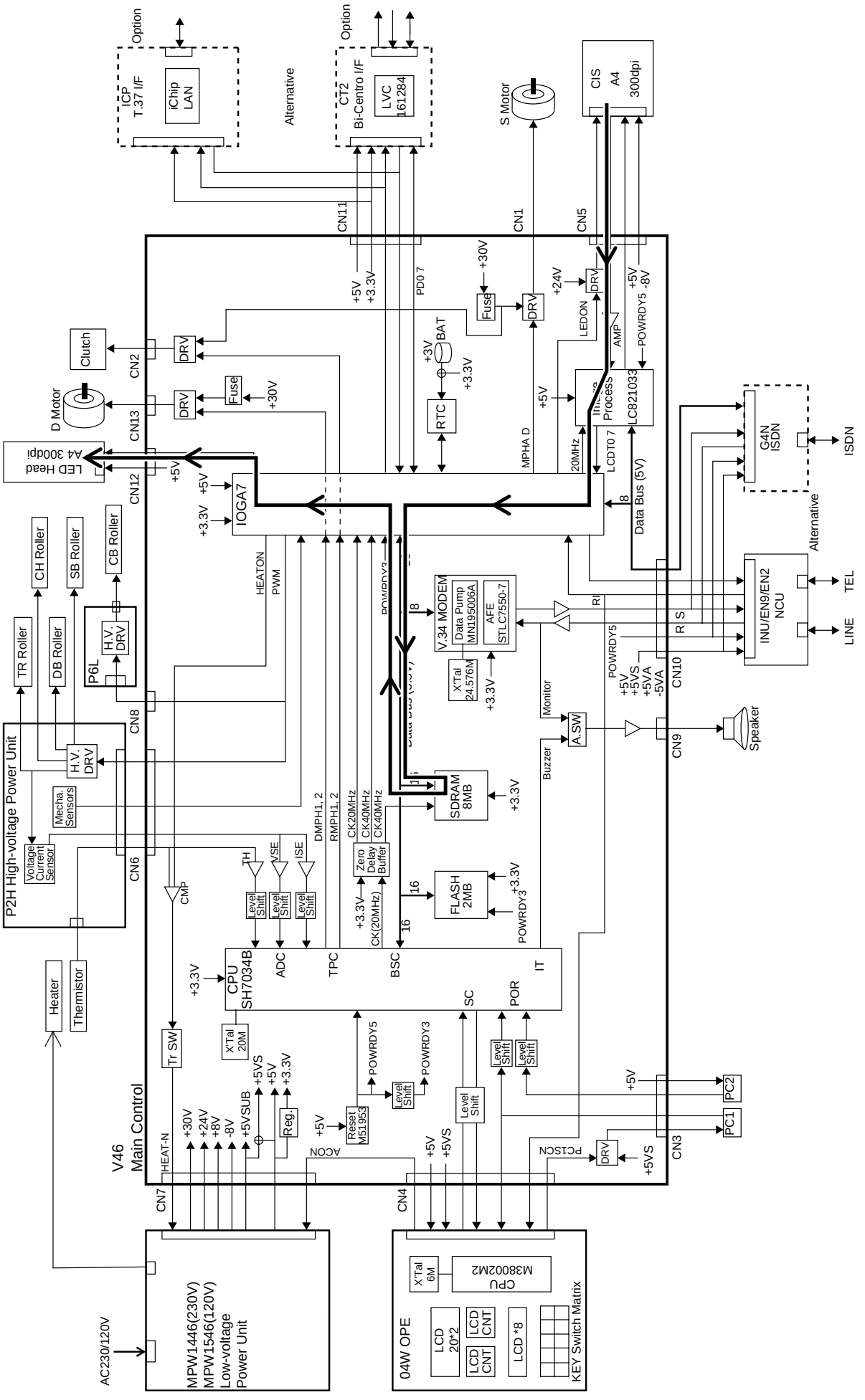


Figure A.3 (1/15) Copy

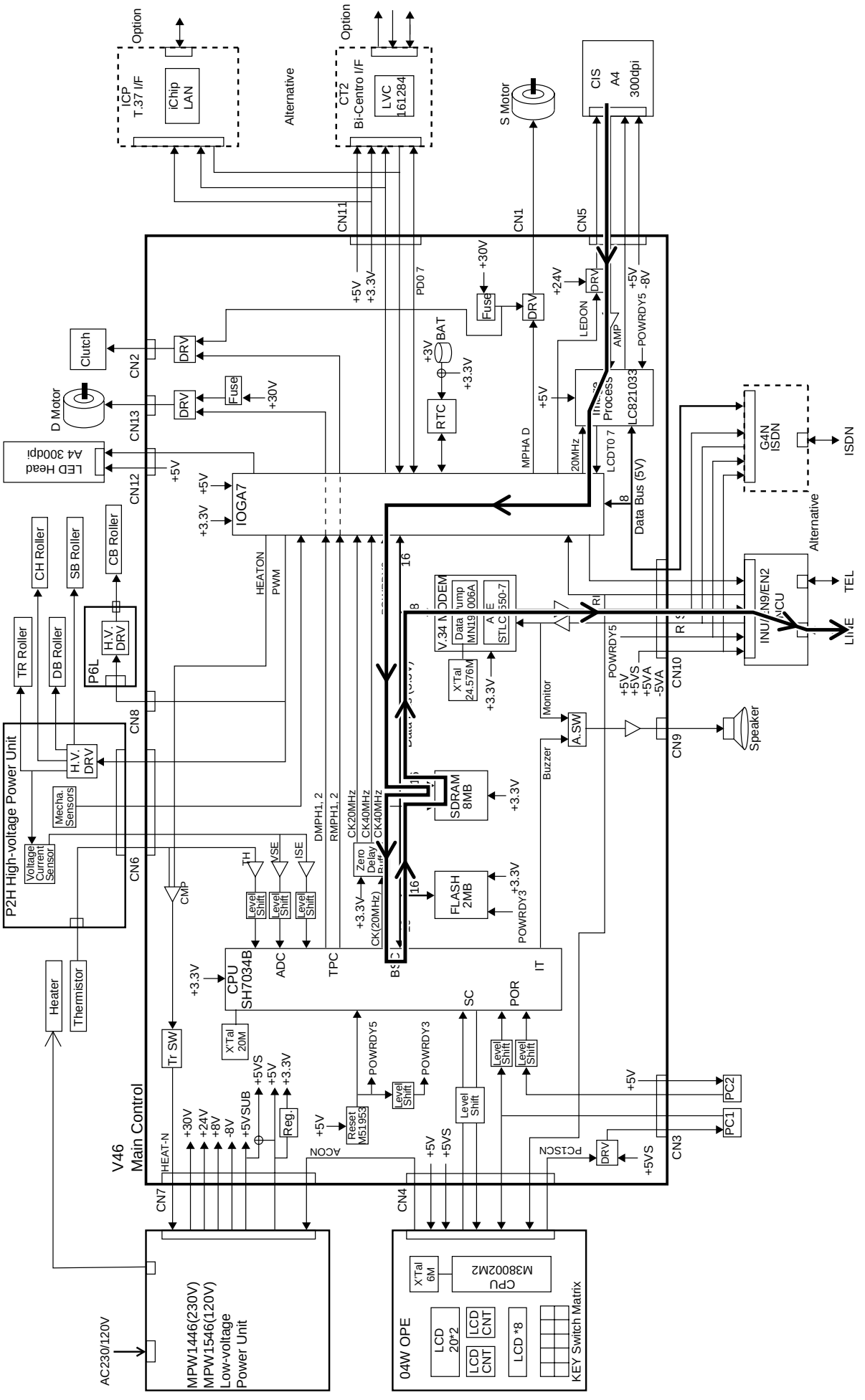


Figure A.3 (2/15) G3 Send

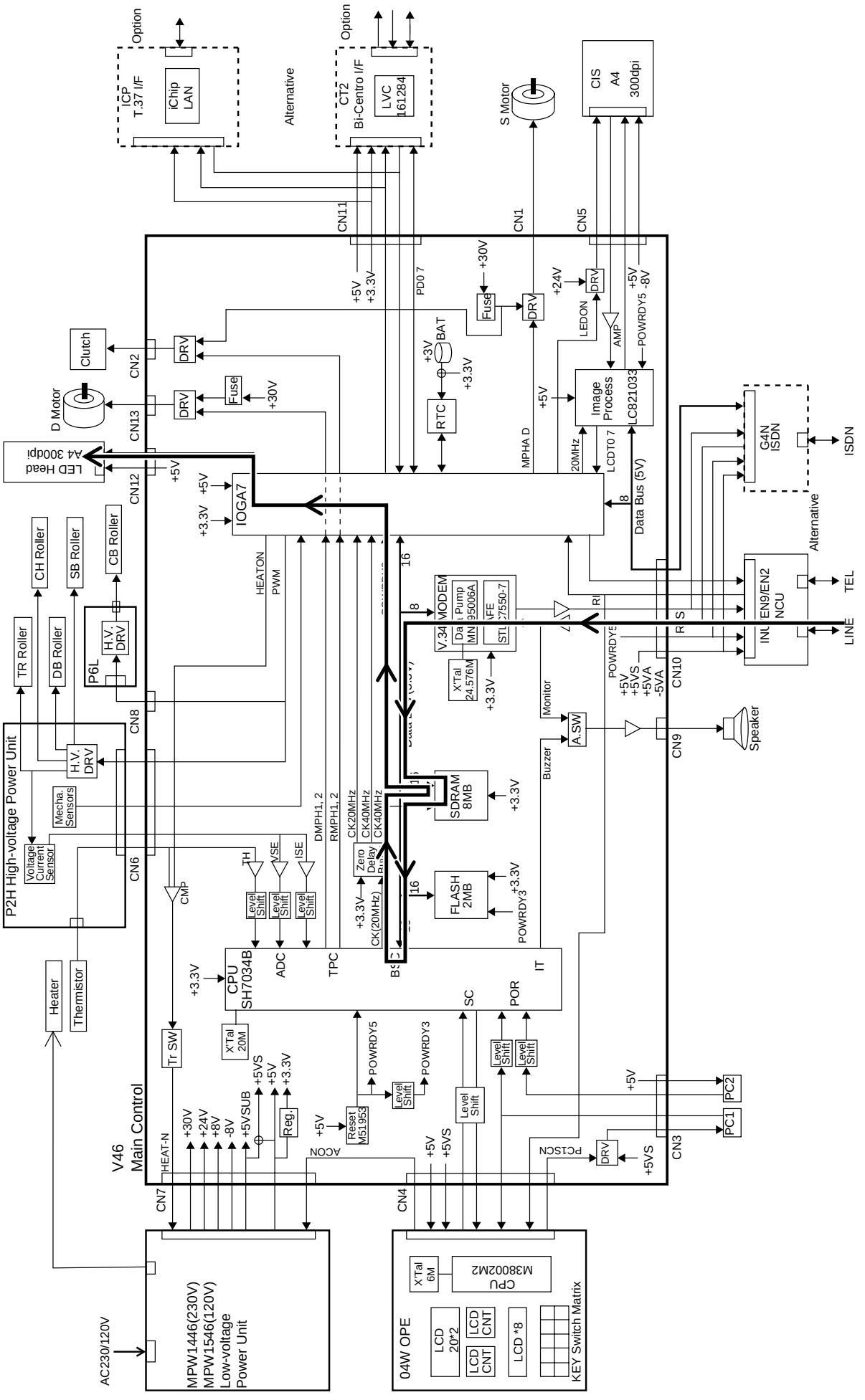


Figure A.3 (3/15) G3 Receive

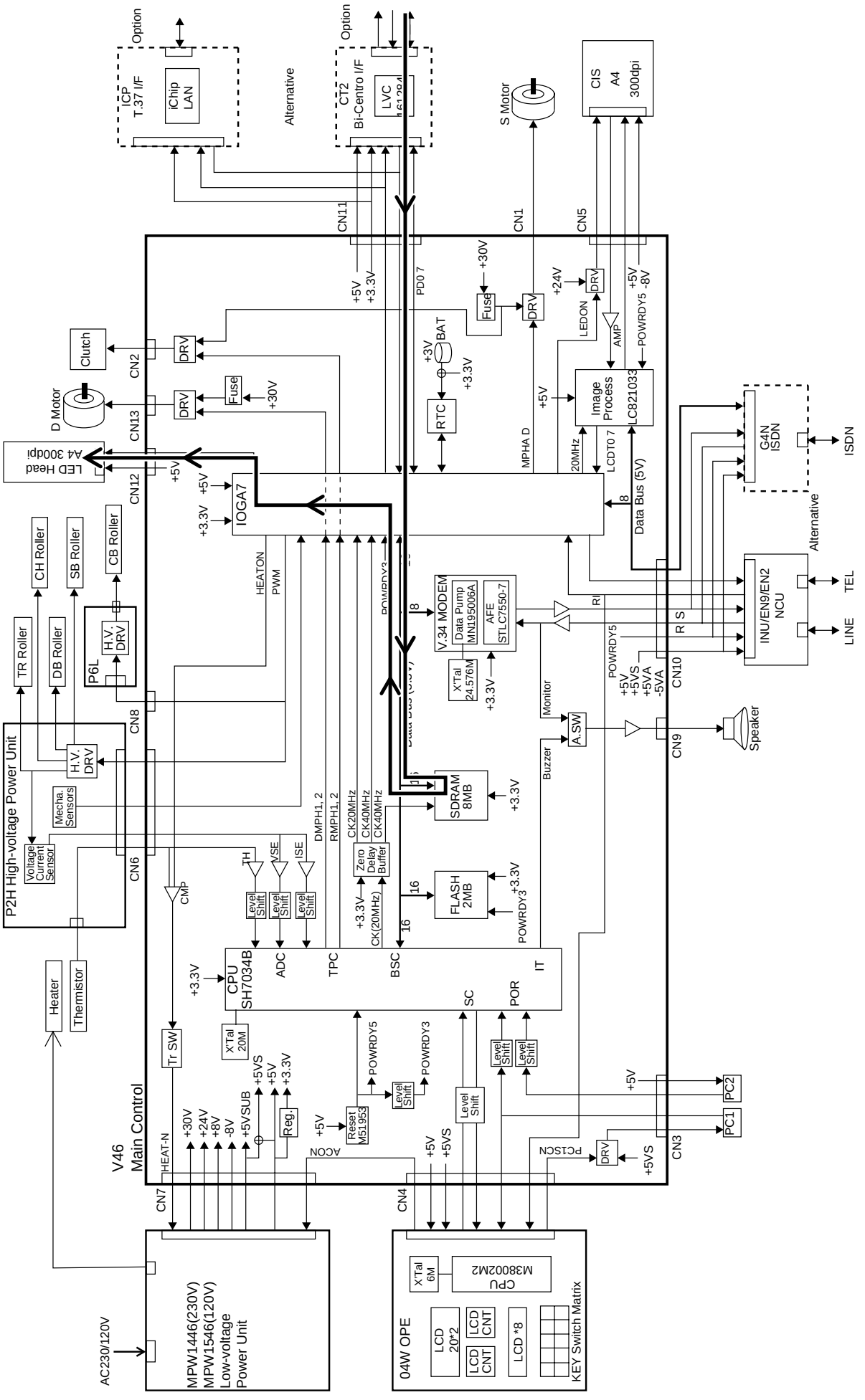


Figure A.3 (4/15) PC Print

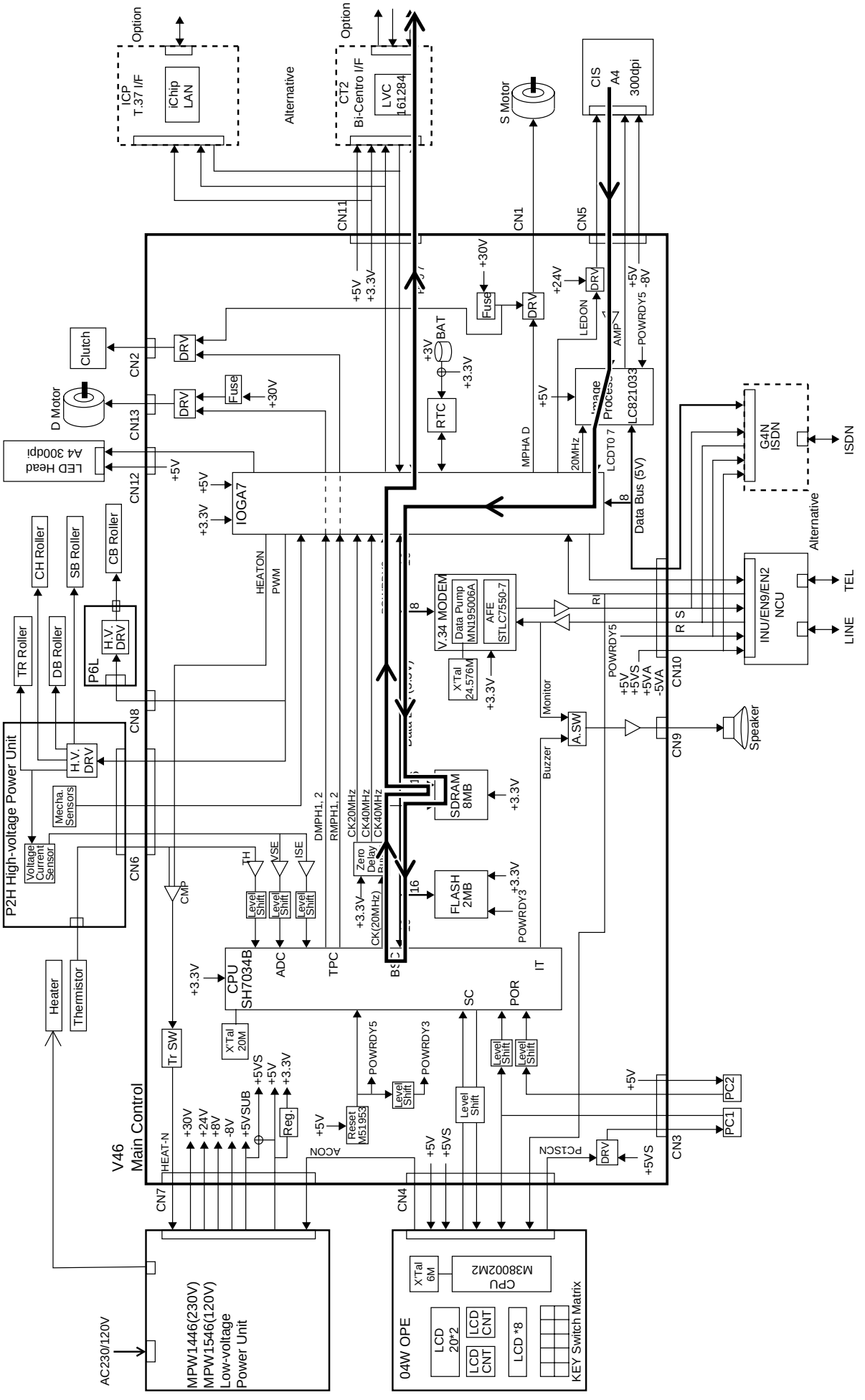


Figure A.3 (5/15) PC Scanner

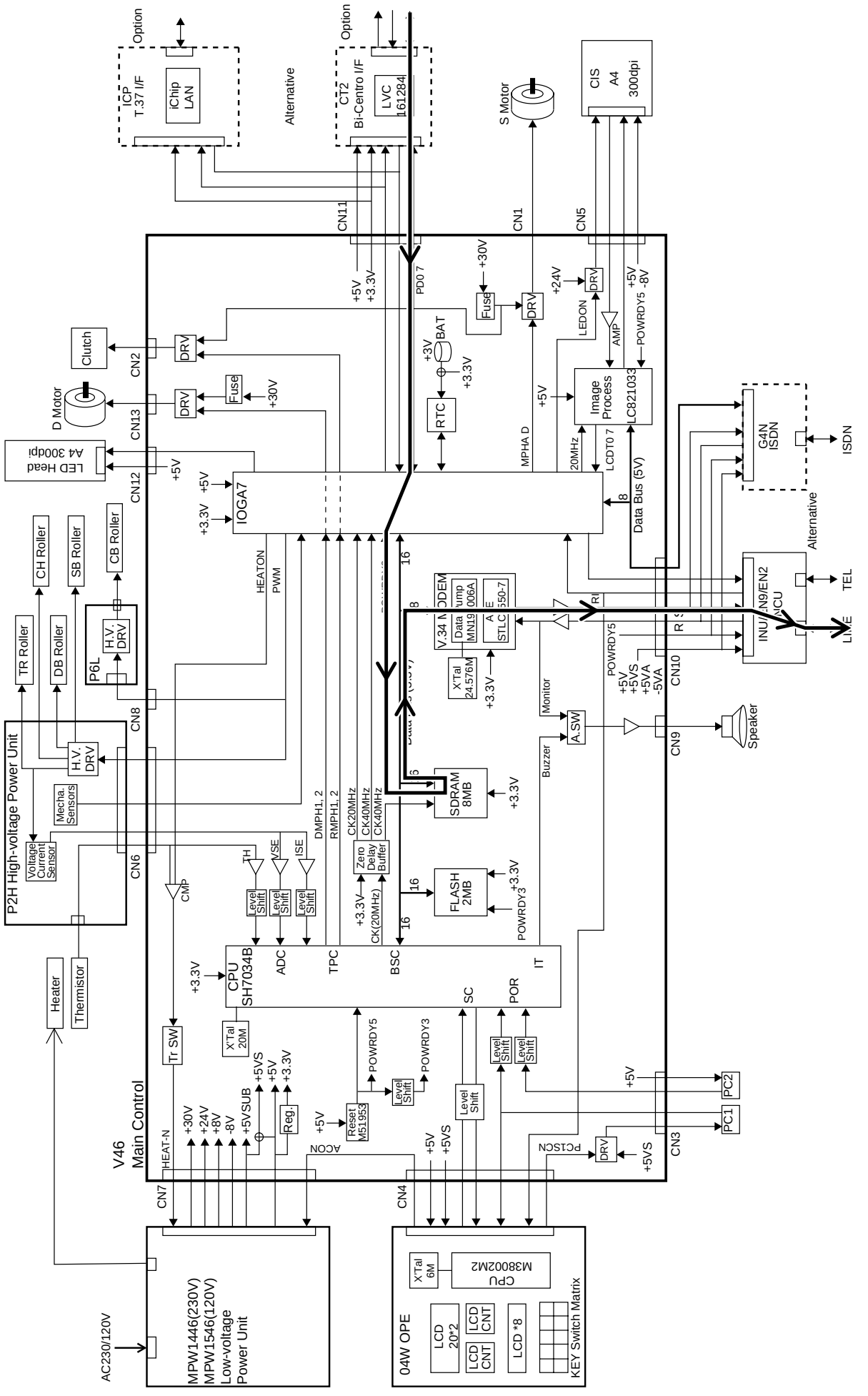


Figure A.3 (6/15) PC-FAX TX

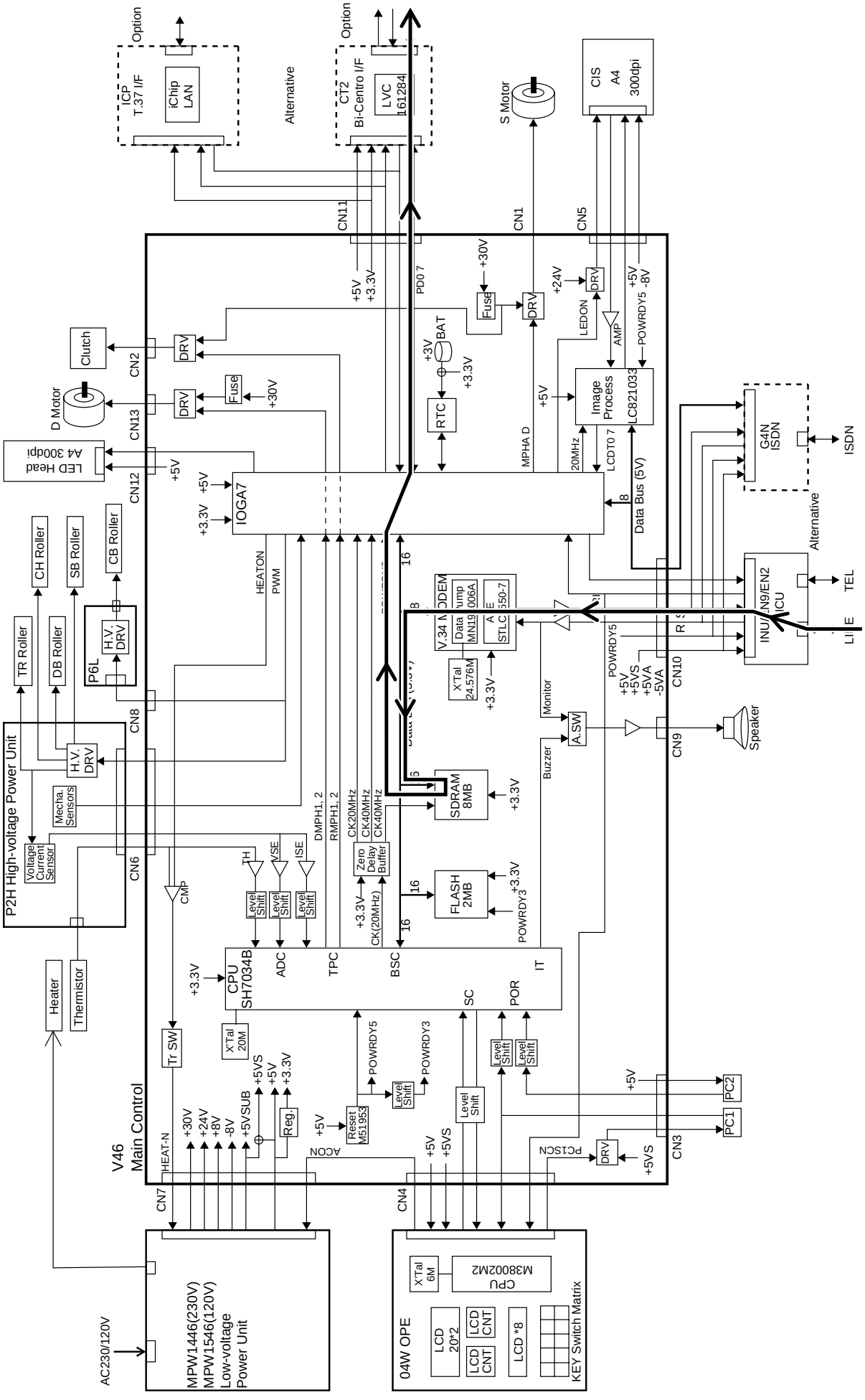


Figure A.3 (7/15) PC-FAX RX

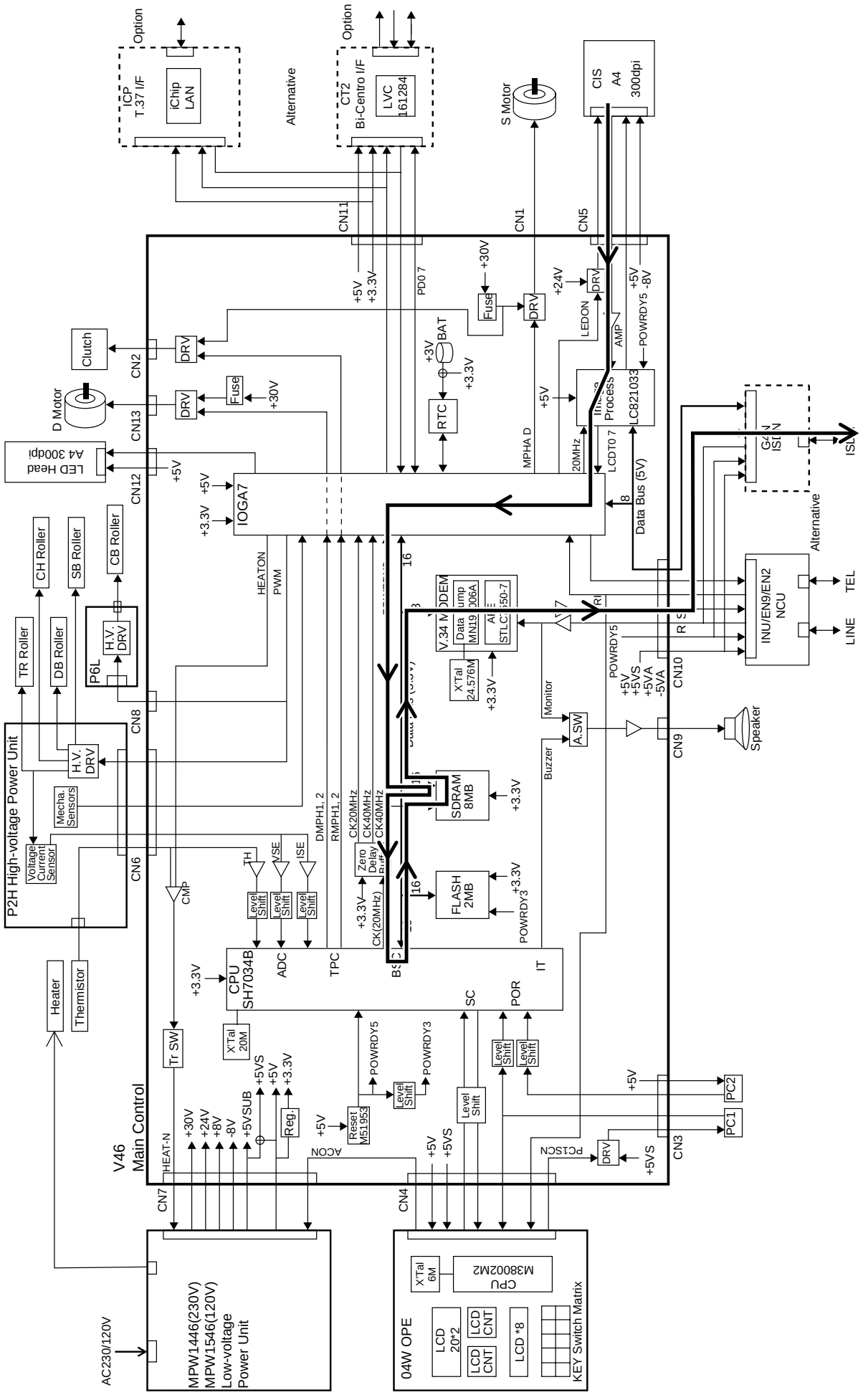


Figure A.3 (8/15) ISDN-G3 TX

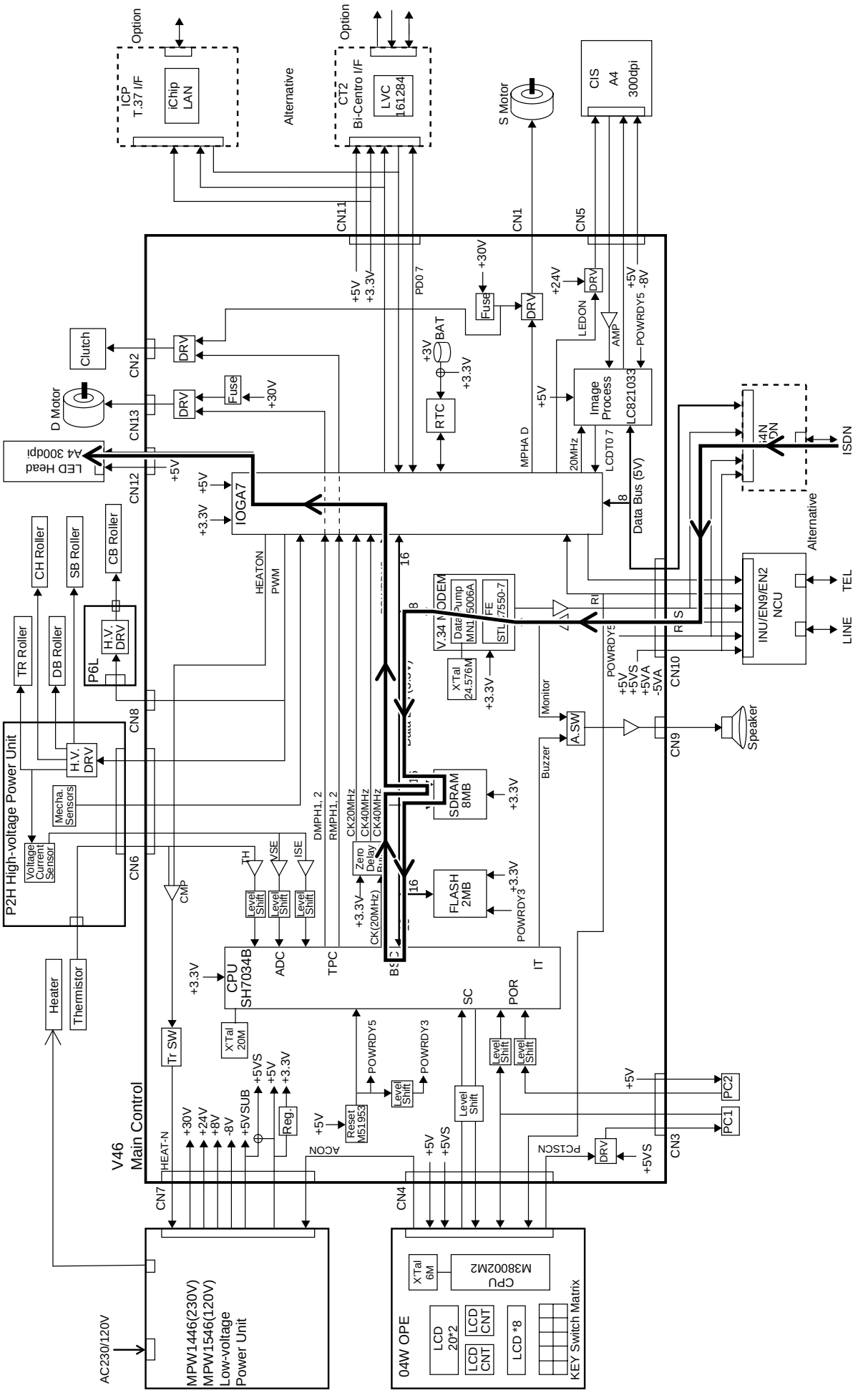


Figure A.3 (9/15) ISDN-G3 RX

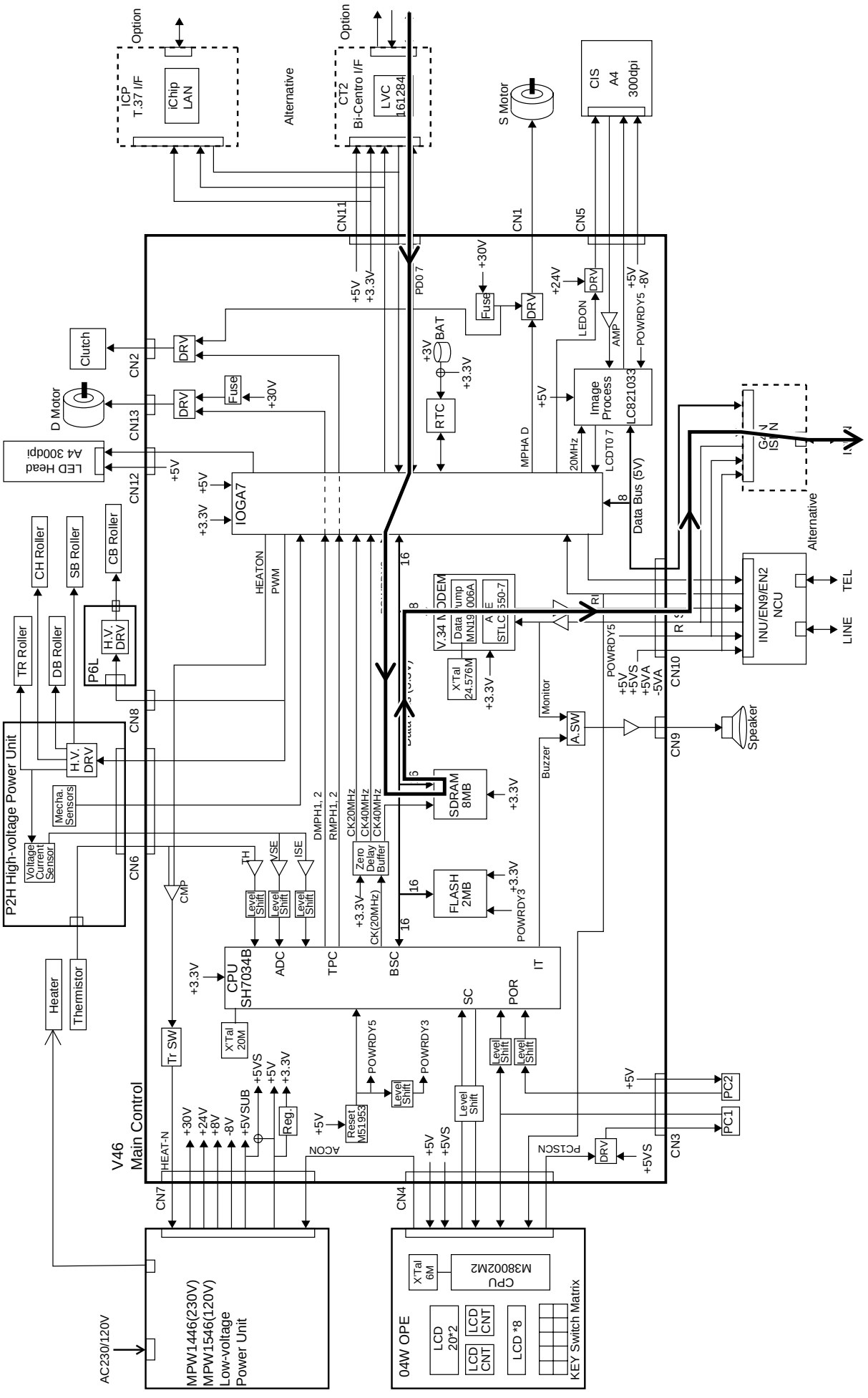


Figure A.3 (10/15) ISDN PC-FAX G3 TX

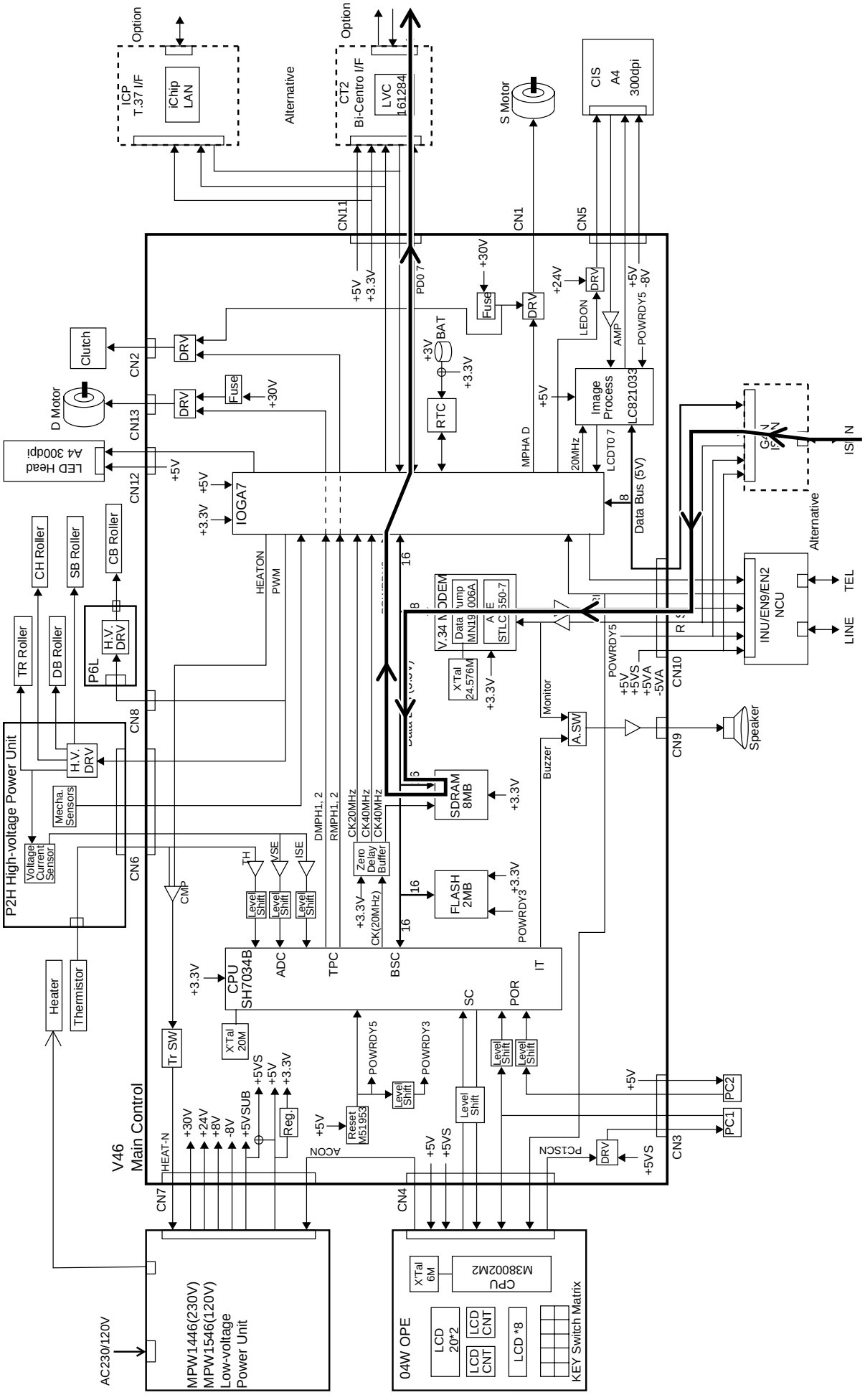


Figure A.3 (11/15) ISDN PC-FAX G3 RX

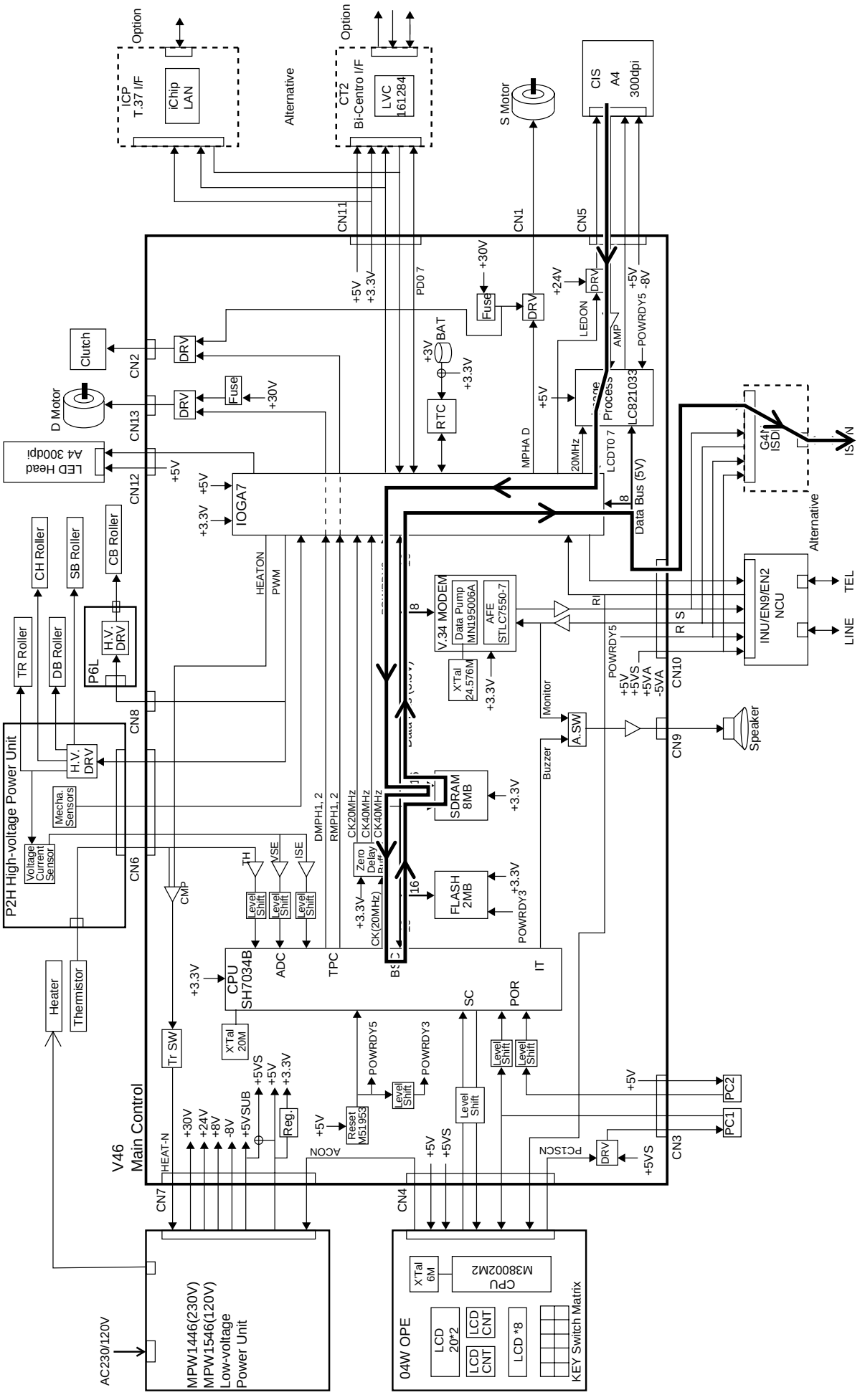


Figure A.3 (12/15) G4 TX

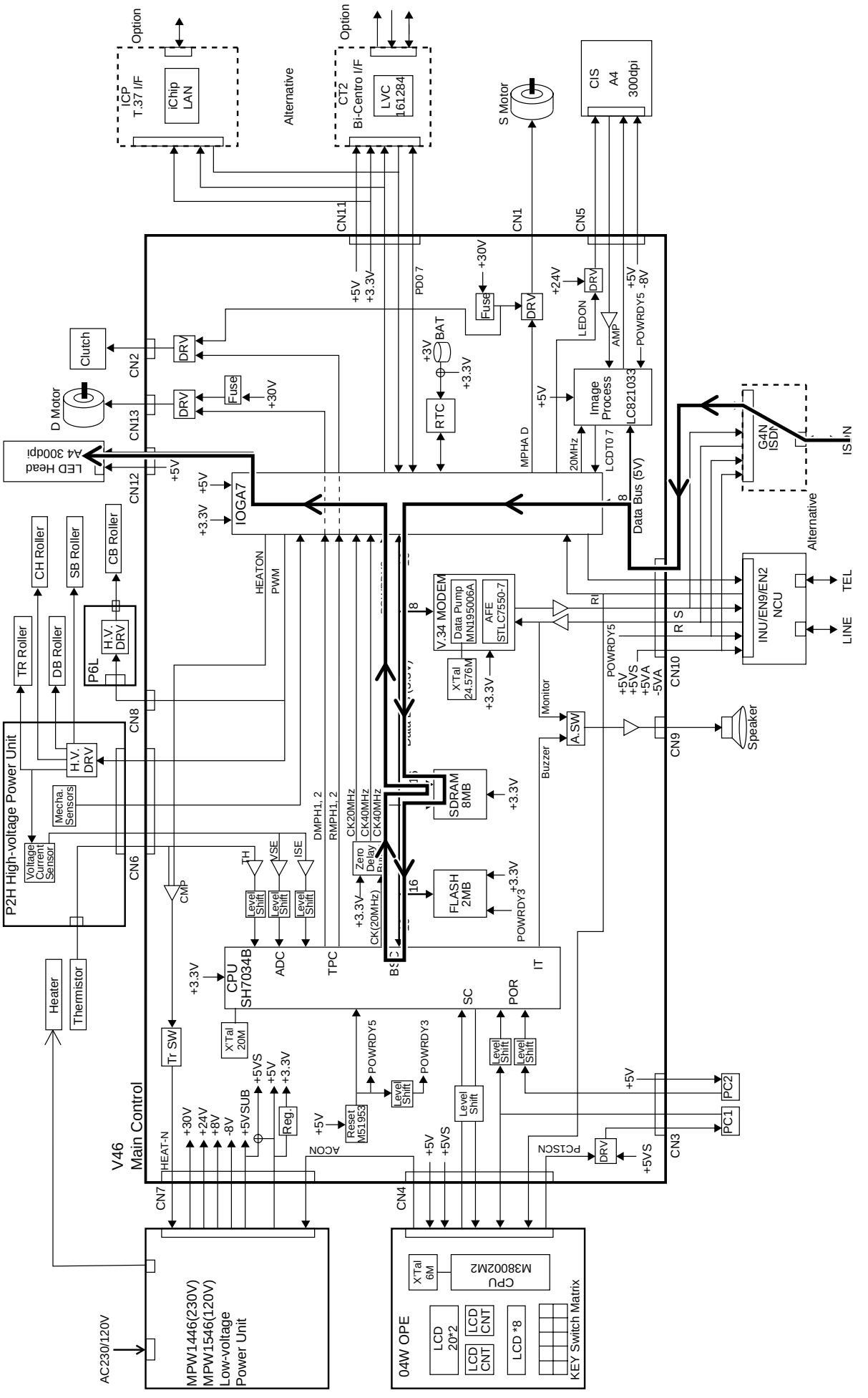


Figure A.3 (13/15) G4 RX

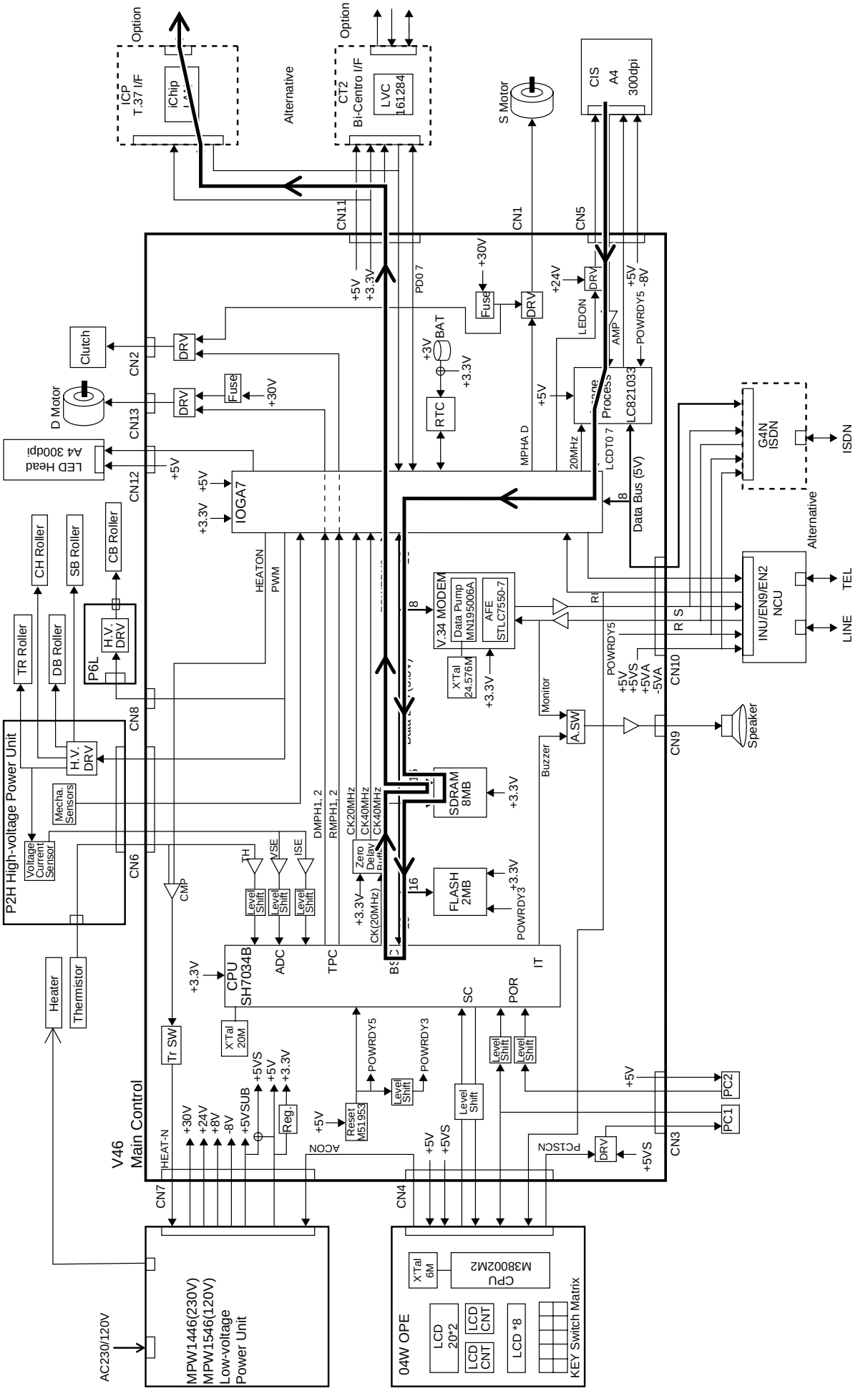


Figure A.3 (14/15) Internet FAX TX

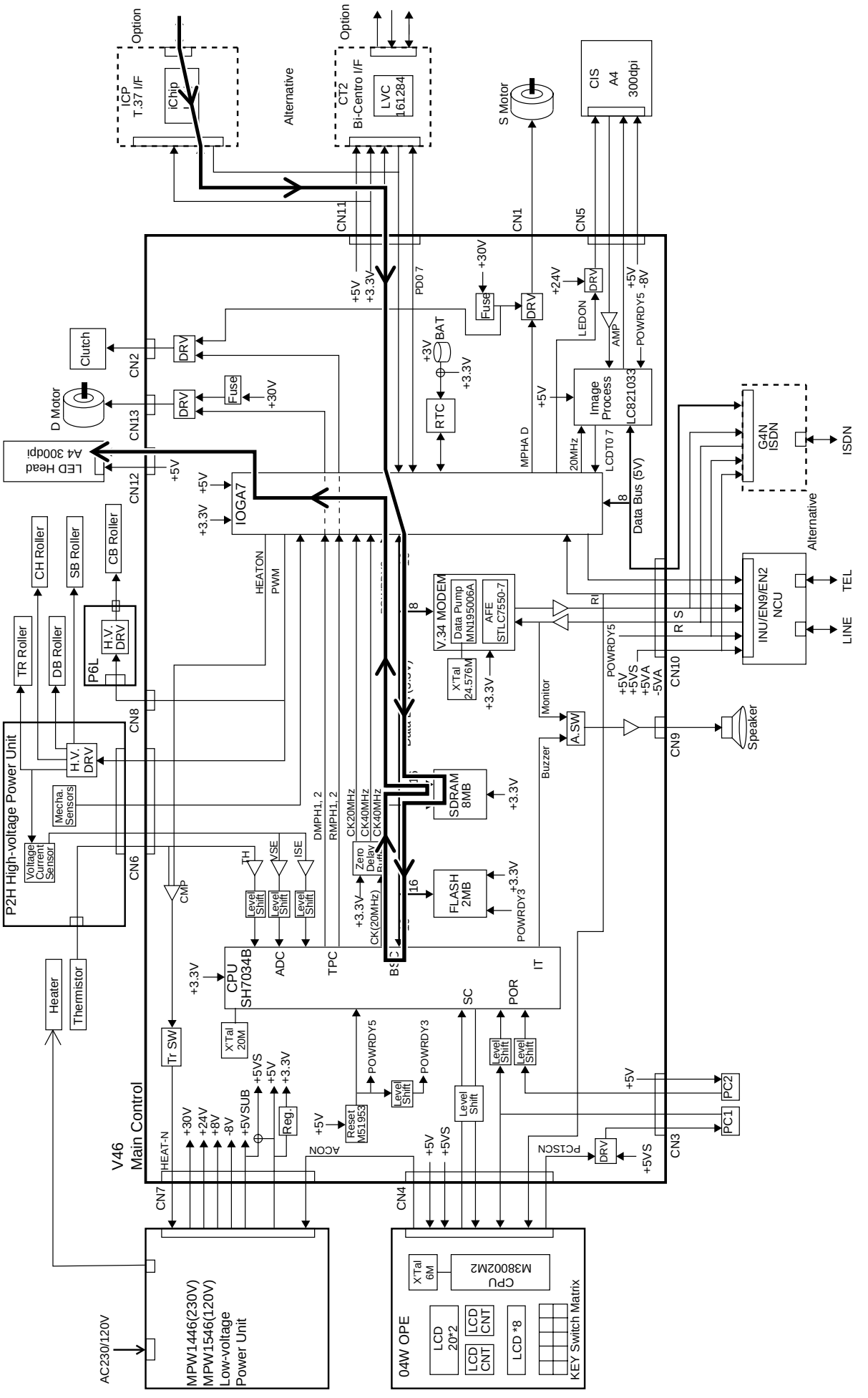


Figure A.3 (15/15) Internet FAX RX

3. V46 Circuit Diagram

3.1 V46 Circuit Diagram (1/14, 2/14)

1. Block diagram
   V46-PCB circuit diagram (1/14, 2/14) shown the consists of CPU (SH7034B) and an input/output gate array IC2 (IOGA7), crystal oscillator circuit and reset signal generator and zero-delay buffer. Figure A.4 shown the block diagram of IC2 (IOGA7) and the peripheral circuits.

2. Function
   1) CPU
      CPU controls the following functions in addition to the basic processor.
      - DMA (Direct Memory Access) control
      - Interrupt procedure control
      - A/D converter
      - Bus state control
      - Programmable pattern control
      - 16 bit integrated timer pulse unit (ITU)
      - Timing pattern control (TPC)
      - Serial communication interface (SCT)

   2) IOGA7 is newly developed LSI for scanning, printing control and I/O control.
      - IOGA7 contains the following functions:
      - Scanned data DMA control
      - Strobe signals control for LED head
      - Smoothing control for printing data
      - Interface of the peripheral LSI

   3) Crystal oscillator circuit
      X1 is 20MHz crystal oscillator. The output wave is fed to the CPU1 through pin 73 and 74. CLK (20MHz) signal output from pin 71 is used as the system clock.

   4) Zero-delay buffer
      Zero-delay buffer generates 40MHz CLK for IOGA7 and SDRAM, 20MHz CLK for IOGA7.

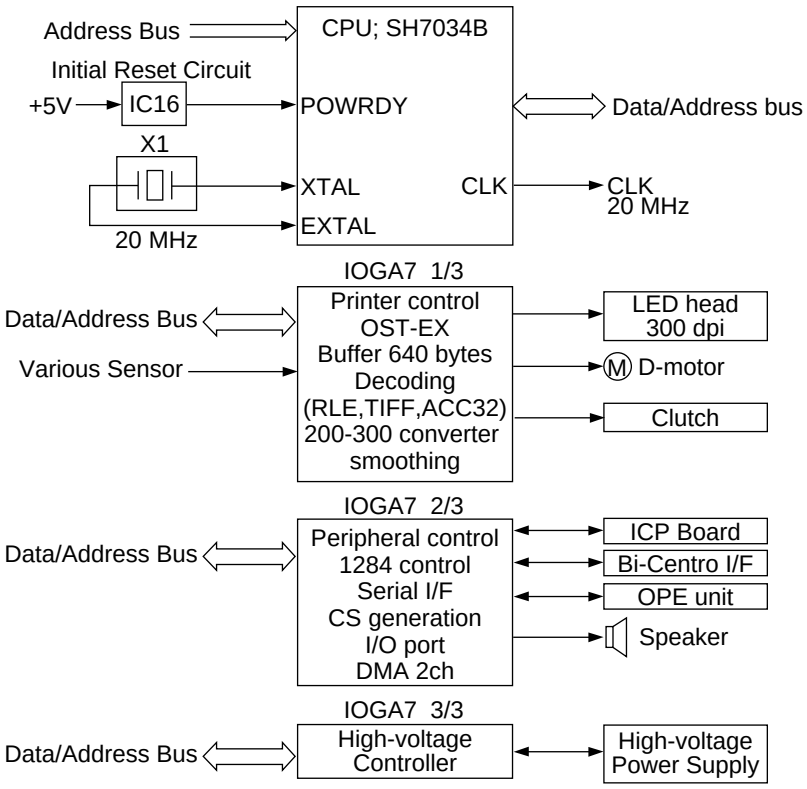


Figure A.4 Related Signals of CPU and IOGA7

3.2 V46 Circuit Diagram (3/14)

1. Block diagram
   V46-PCB circuit diagram (3/14) shown the consists of Flash memory, SDRAM, Real time clock IC and Back up battery circuit.

   Figure A.5 shows the block diagram of Flash memory, SDRAM and Real time clock.

2. Function
   1) Flash memory (FLS1)
      Flash memory (electrically erasable and programmable device) is used for the main software program, which is stored in EP-ROM of the current OKIFAX. Other than the function of EP-ROM, Flash memory is also used for the user data area instead of SRAM chips.

      • 2M Byte Flash memory × 1 (FLS1)
        Used for work area, report recording etc.

   2) SDRAM
      RAM1: 8MB (1M words × 16 bit × 4 bank)
      • Used as follows:
        Picture memory for the ECM send/receive mode.
        Picture memory for the memory transmission mode.
        Picture memory for the retransmission mode.
        Picture memory for the reception in memory.
        Editing for report printing.

   3) Back-up battery circuit
      The non-rechargable lithium battery supplies voltage to a real-time clock IC at AC main interruption.

   4) Real-time clock IC (IC22)
      A real-time clock IC (serial I/F) incorporating a crystal osillator is used. Its basic frequency is 500 Hz. IC2 pins 217 (RTCCS), 216 (RTCWR), 215 (RTCDATA), and 214 (RTCCLK) are used as I/F signal pins.
      The drive voltage is 3V and backup by a dedicated lithium battery.

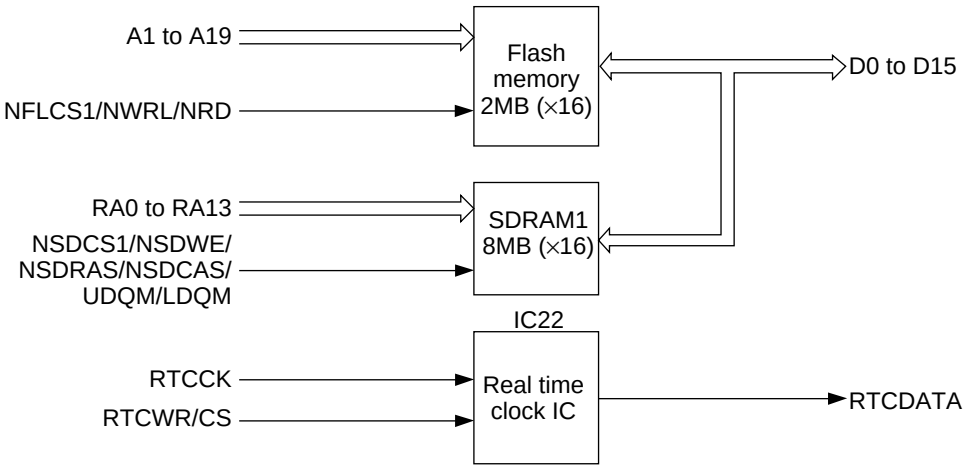


Figure A.5 Block Diagram of DRAM/Flash Memory and Real-time Clock IC

3.3 V46 Circuit Diagram (4/14)

1. Block diagram
   V46-PCB circuit diagram (4/14) shown the consists of IC11 (analog switch IC) and IC26 (amplifier) generates the following audio monitor.

   • Line monitoring
   • Buzzer signals

   Figure A.6 shows the block diagram of audio monitor circuit.

2. Function
   1) Line monitoring
      Send and receive signals are input from the transformer on the NCU board to this circuit as a R signal and the signal power is input to the IC11. The IC11 adjusts the monitor volume by MONC0, MONC1 and MONC2 signal under the control of IC2 (IOGA7). Output (high and low) from IC11 passes through the amplifier and is fed to the speaker as a SP signal.

      * MONC0/MONC1/MONC2 signal: Volume control signal.

      Note: In case of transmission mode, the monitor will be available during dialing, but the monitor will be switched off automatically after the elapse of specified time (about 5 sec).

   2) Buzzer control
      Alarm and other signals are input from CPU (SH7034B) to this circuit as BZ signals. The various buzzer signals are sounded under the control of CPU.

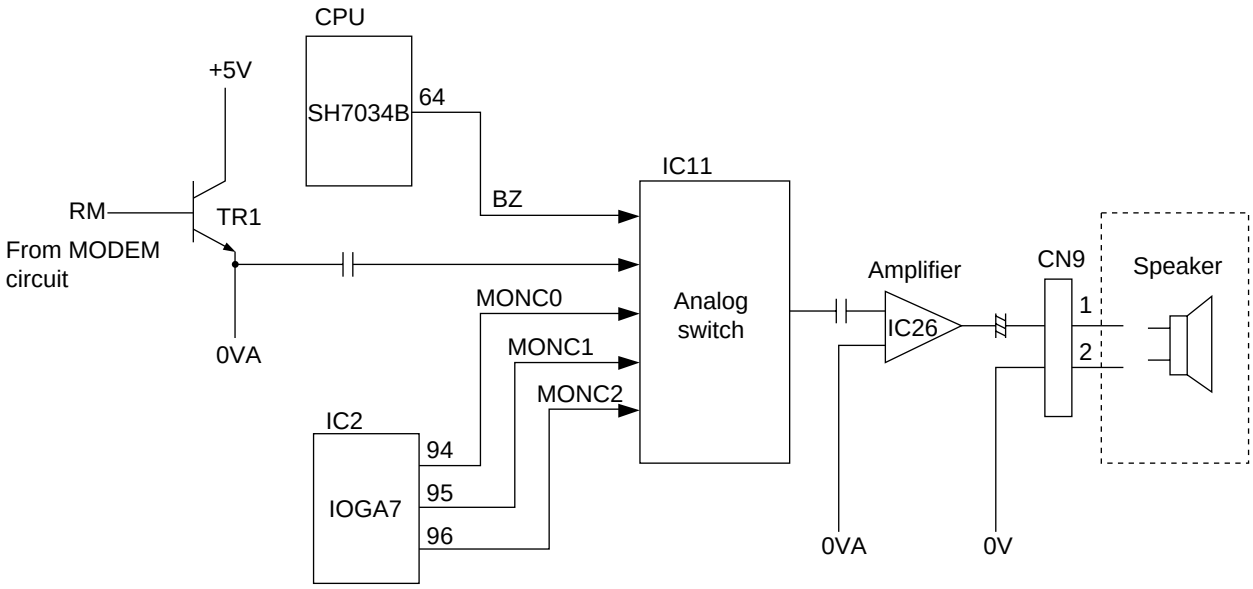


Figure A.6 Block Diagram of Audio Monitor Circuit

3.4 V46 Circuit Diagram (5/14)

1. Block diagram
   V46-PCB circuit diagram (5/14) shown the consists of Modem (33.6 kbps).

   Modem consists the following functions:
   - Modulation/demodulation
     Modulation type:
     1) ITU-T Rec. V34 (33600/31200/28800/26400/24000/21600/19200/16800/14400/12000/9600/7200/4800/2400 bps) for G3 picture data.
     2) ITU-T Rec. V17 (14400/12000/9600/7200 bps) for G3 picture data.
     3) ITU-T Rec. V29 (9600/7200 bps) for G3 picture data.
     4) ITU-T Rec. V27 ter (4800/2400 bps) for G3 picture data.
     5) ITU-T Rec. V21 channel 2 (300 bps) for binary signals defined in ITU-T Rec. T.30.
   - Automatic adaptive equalizer for G3 receive data with 300 bps data excluded.
   - Generation of signal tones
   - PB tone (multi-frequency tone) generation
   - Detection of single tones
   - D/A converter for send data (TX)
   - A/D converter for receive data (RX)
   - Amplitude equalizer for RX
   - Selectable attenuation for TX
   - Automatic gain control

   Figure A.7 shows the related signals of Modem.

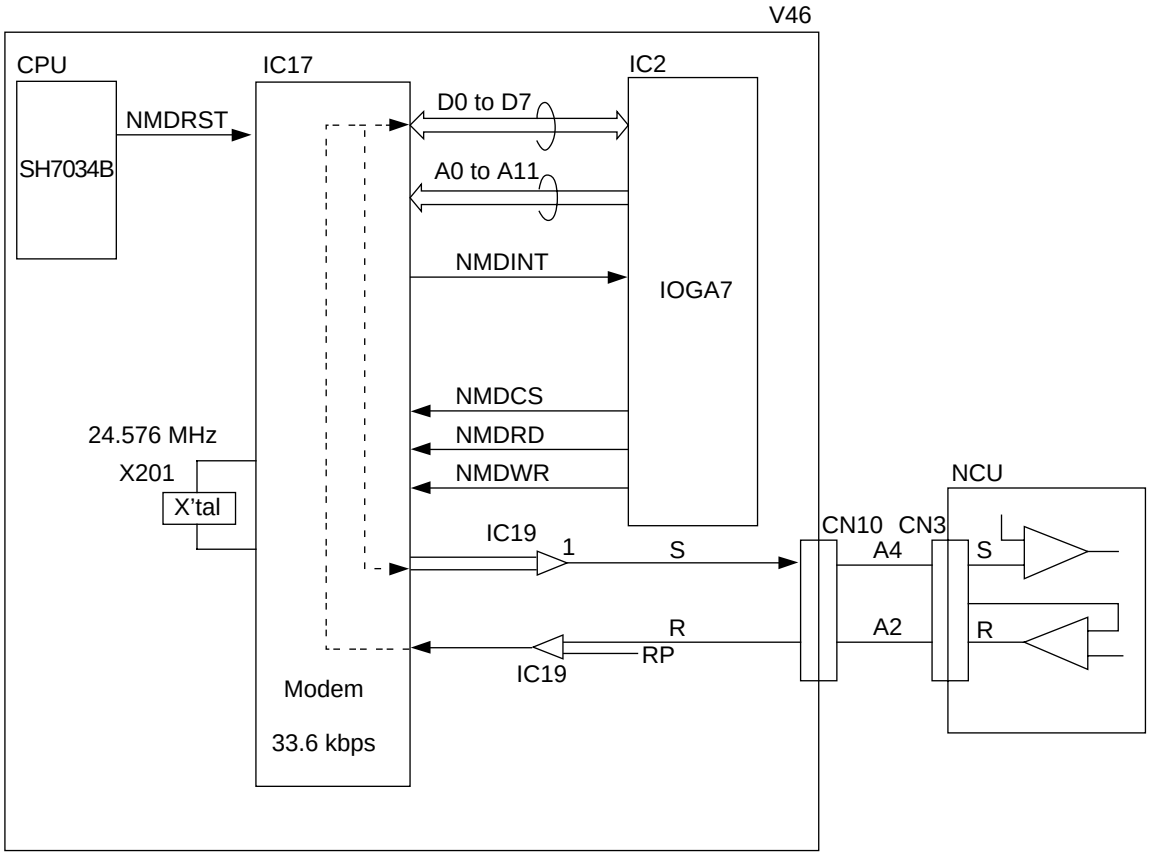


Figure A.7 Related Signals of Modem

3.5 V46 Circuit Diagram (6/14)

1. Block diagram
   V46-PCB circuit diagram (6/14) shown the consists of connector CN12 that provides an interface between V46 board and LED print head.

   Figure A.8 (1/2) shows the related signals and block diagram of LED print head.

2. Function
   Data of 2496 LEDs on the LED print head is loaded into the shift registers by the HCLCK signal. After the 2496 bit (208 mm) data is loaded in the shift registers, it is then loaded in the latch circuit by the HLATCH signal. The turning -on and off of the LEDs are controlled by STRB1-N to STRB4-N signals.

   LED head interface signals output from IC2 (IOGA7)
   - HDATA0 : Print data i.e., data to be printed
   - HDCLK : Transfer clock for print data
   - HDDLD : Latch signal for print data
   - HDSTB1~4 : LED head strobe signals

3. Signal timing
   Figure A.8 (2/2) shows the timing chart of LED print head.

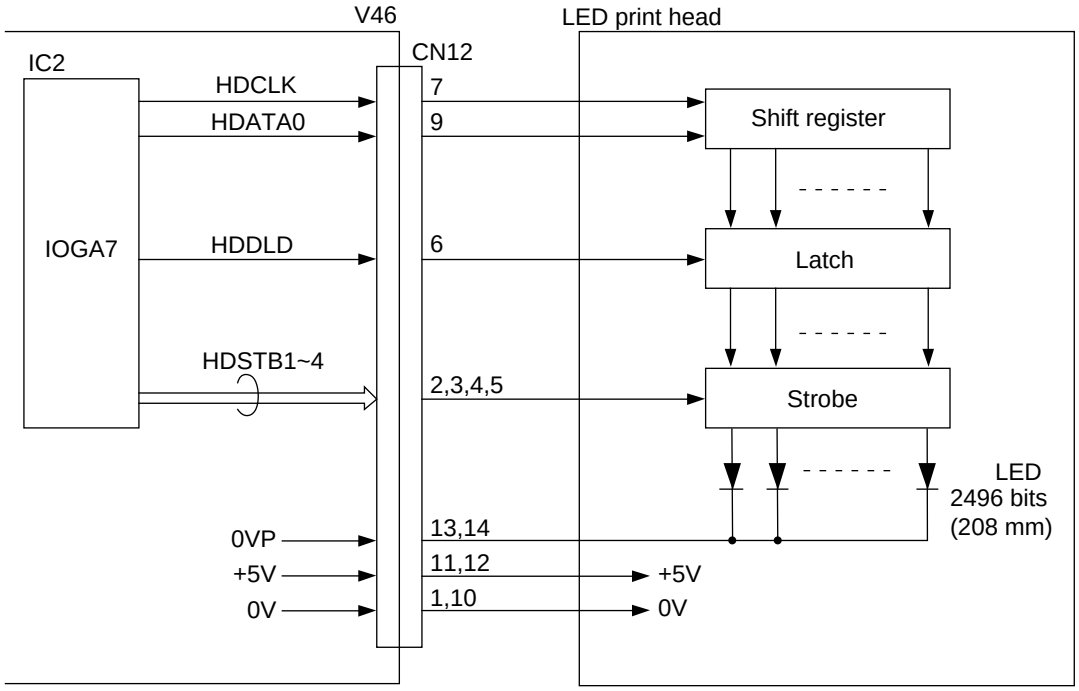


Figure A.8 (1/2) Related Signals and Block Diagram of LED Head

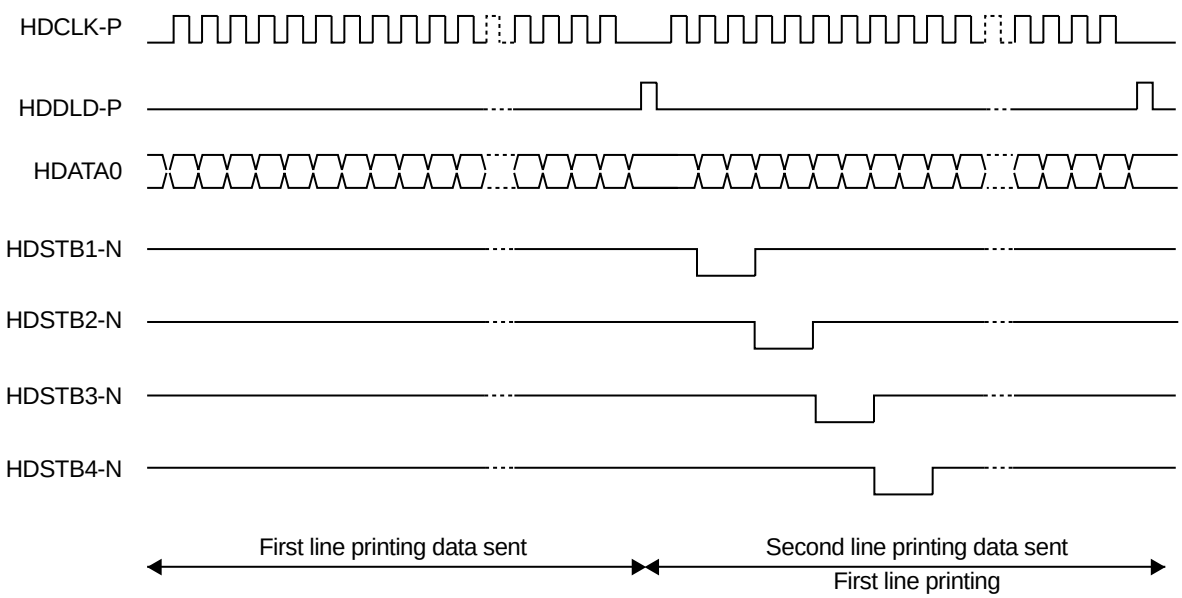


Figure A.23 (2/2) Normal Mode Printing Timing Chart

3.6 V46 Circuit Diagram (7/14, 8/14)

1. Block diagram

V46-PCB circuit diagram (7/14, 8/14) shown the consists of the following connectors:

- Connector CN10 that provides an interface between V46 board and NCU/G4N board.
- Connector CN3 that provides an interface between V46 board and external electro-mechanical conponents (PC1 and PC2).
- Connector CN4 that provides an interface between V46 board and OPE (O4W) unit.

Figure A.9 (1/4) shows an interface between V46 board and NCU board.
Figure A.9 (2/4) shows an interface between V46 board and OPE unit.
Figure A.9 (3/4) shows the communication signal between MCNT and OPE.
Figure A.9 (4/4) shows the related signals of PC1 and PC2.

2. Function

1) External status supervising interface (PC1/PC2)

External status is detected by the photocouplers (PC1/PC2) in the mechanism and the signal is output to the input port of CPU via this interface circuit.

- PC1 : Presence of document on hopper.
  When sub-power supply is applied to the fax machine, this signal is output to OPE unit which will control the main-power supply.
- PC2 : Presence of document at scanning position.

3. Others

NCU interface signal

- CML : Line seizure control signal
- DP : Dial pulse control signal
- SR : Control signal for connection between LINE and TEL terminals
- MUTE : Control signal for pulse dial improvement and bell shunt relay
- PP : Relay control signal for special service code detection at parallel pickup or remote reception
- PBXE : Control signal for connecting one of LINE terminal to the PBXE terminal
- OH2-N : Detection of off-hook of terminal connected to TEL
- RP : Receiving sensitivity determination terminal
- RI : Ringing detection signal
- S : Send signal (picture data/protocol/tonal signals/PB tone etc.)
- R : Received signal (picture data/protocol/tonal signals etc.)

OPE interface signals

- TXDOPE : This signal transmits sequencially the contents of each data of TXD (LED on/off information, etc.) to OPE in serial data from CPU.
- RXDOPE : This signal transmits sequencially the contents of each data of RXD (key code information, etc.) to CPU in serial data from OPE.
- OPECHK : Use to monitor the operation of the OPE unit.
- OPERST : Reset signal for OPE unit

G4N interface signals
Refer to section 8.

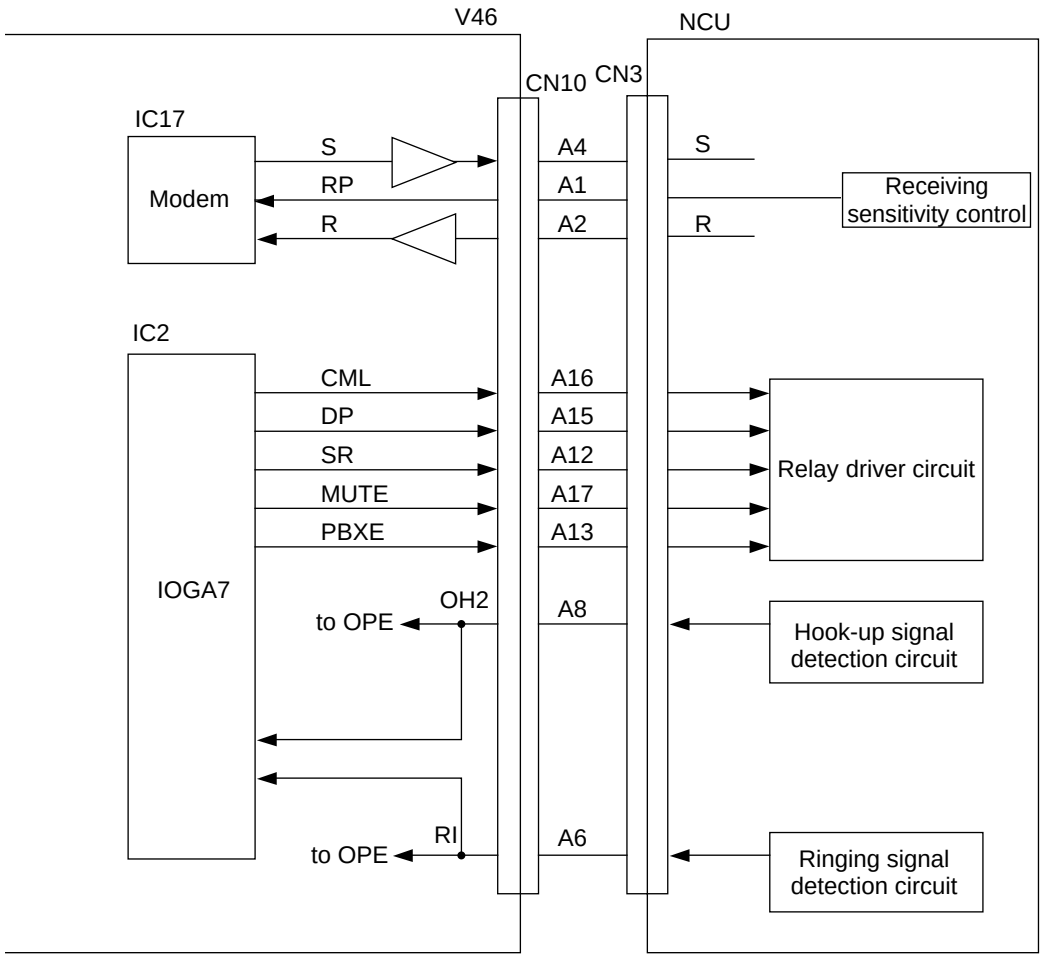


Figure A.9 (1/4) Interface between V46 Board and NCU Board

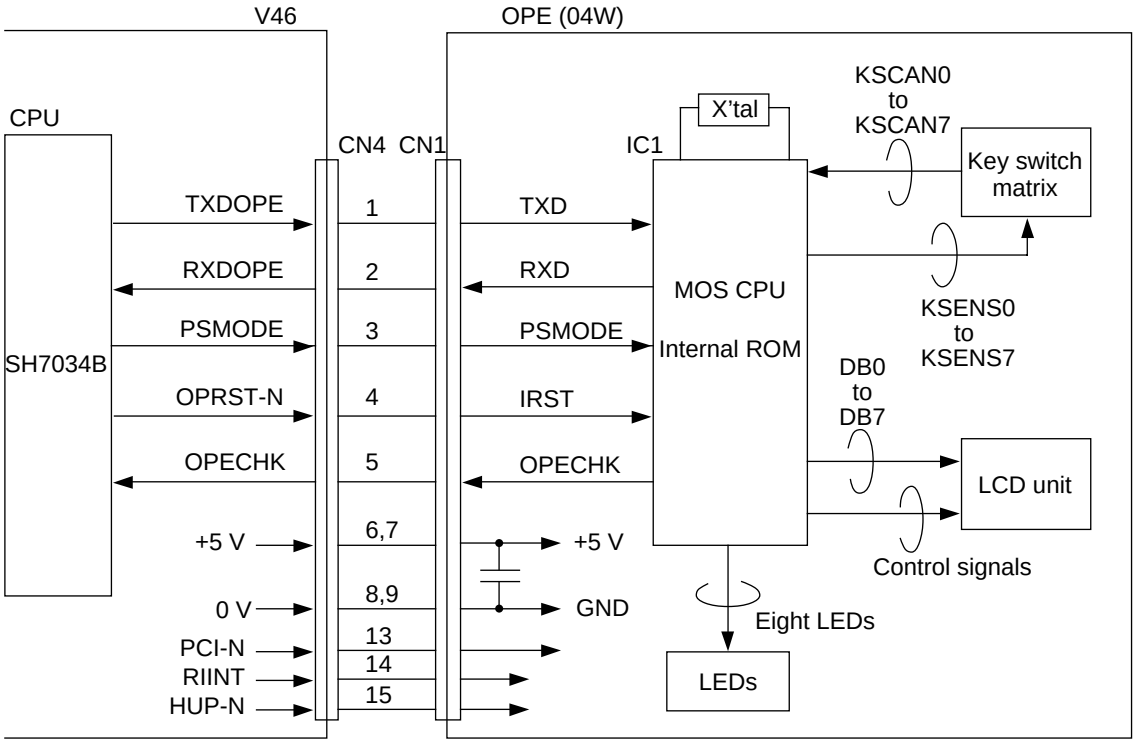


Figure A.9 (2/4) Interface between V46 Board and OPE (operation unit)

Between the MCNT and OPE, serial data is transferred via the SIO incorporated in the CPU1.

<Communication method>

1) Communication method : Start-stop synchronization
2) Transfer rate : 5832 bps
3) Data length : 8 bits

<Data configuration>

1) Status bit : 1 bit
2) Data : 8 bits
3) Even parity : 1 bit (ignored by OPE)
4) Stop bits : Bits 1 and 5
   Error = ±5%

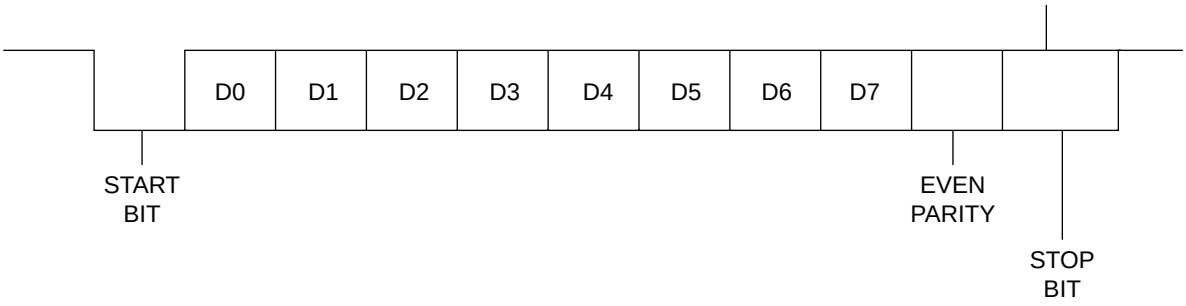


Figure A.9 (3/4) Communication signal (TXDOPE/RXDOPE) between MCNT and OPE

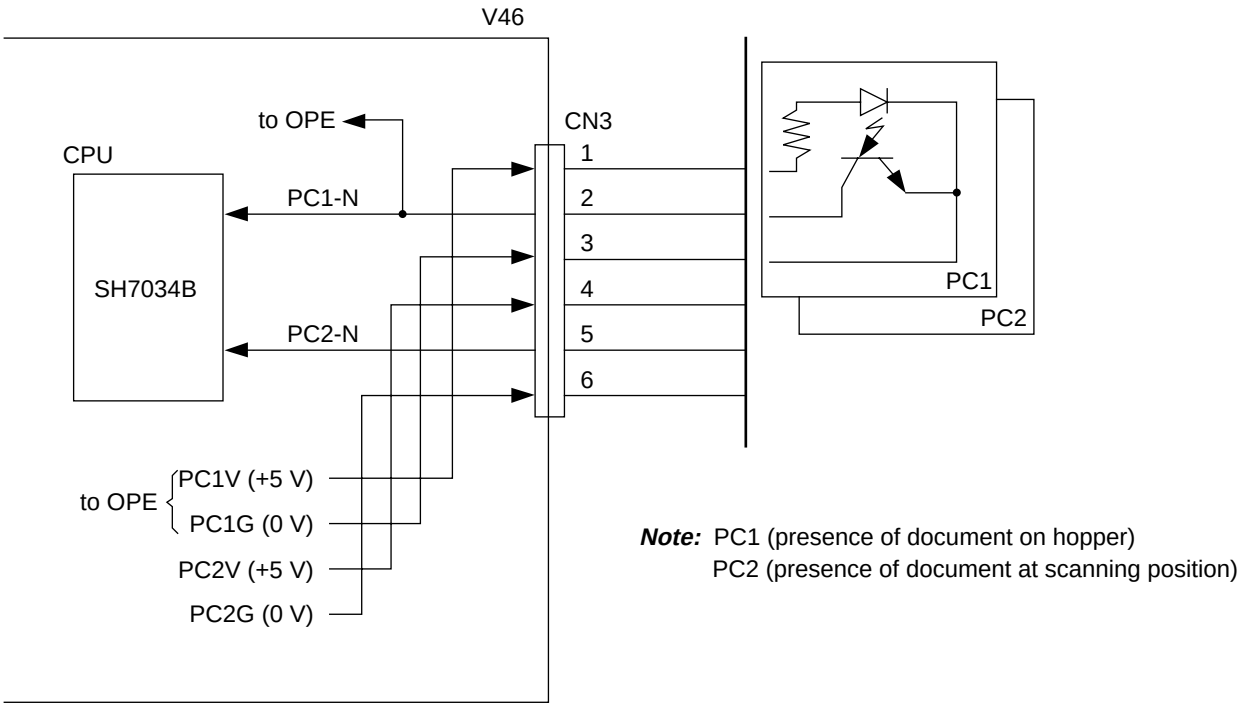


Figure A.9 (4/4) Related Signals of PC1/PC2

3.7 V46 Circuit Diagram (9/14)

1. Block diagram
   V46-PCB circuit diagram (9/14) shown the consists of the following functions and connectors:
   • IC9 (Drum motor driver)
   • Connector CN13 that provides an interface between V46 board and the drum motor.

   Figure A.10 shows the related signals of the drum motor.

2. Function
   1) Drum motor control

      This drum motor is driven by the motor driver IC9. It is two-phase excited and bipolar-driven according to the DMPH1O, DMPH2O and NDMON1 signals that are generated from the IOGA7. This drum motor rotates the image drum.
      DMPH1I, DMPH2I generated by CPU are fed to IOGA7. IOGA7 perform the level shift of DMPH1I, DMPH2I and outputs as DMPH1O, DMPH2O

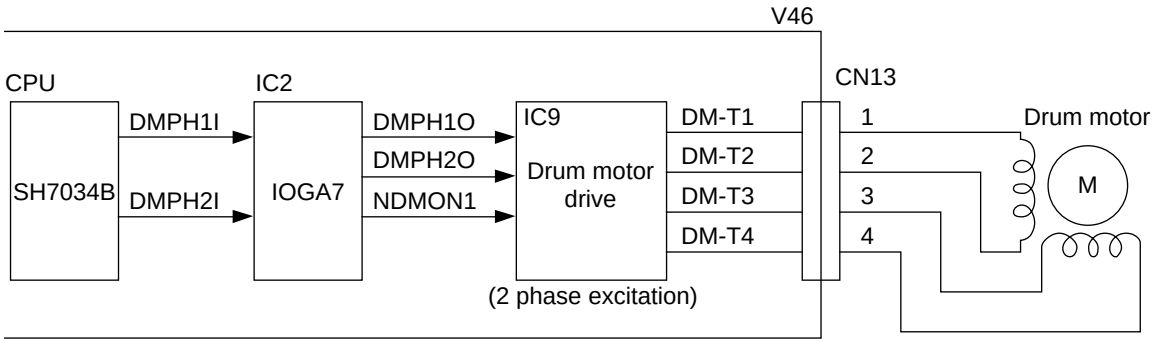
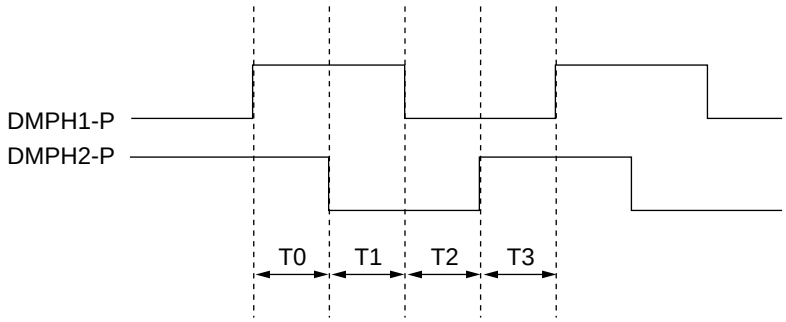


Figure A.10 (1/2) Related Signals of Drum Motor

   2) Drum motor timing chart



Operation at normal speed: T0 to T3 = 0.781 ms

Figure A.10 (2/2) Drum motor signal timing chart

   3) Drive control
      Time T0 to T3 determines the motor speed, while the difference of phase direction between phase signals DMPH1-P and DMPH2-P determines the rotation direction, DMON1-N signals control a motor coil current. According to the polarity of the phase signal, the coil current flow as follows:

      1) +30V → SW → motor coil → SW → resistor → earth, or,
      2) +30V → SW → motor coil → SW resistor → earth

      The voltage drop across the resistor is input to comparator, where it is compared with a reference voltage. If an overcurrent flow occurs, a limiter operates to maintain it within a certain fixed amount of current.

3.8 V46 Circuit Diagram (10/14)

1. Block diagram
   V46-PCB circuit diagram (10/14) shown the consists of the following function and connectors:
   • IC7 (Send motor driver)
   • TR512/TR513 (Clutch driver)
   • Connector CN1 that provides an interface between V46 board and the send motor.
   • Connector CN2 that provides an interface between V46 board and the clutch.

   Figure A.11 (1/2) shows the related signals of the send motor and clutch.
   Figure A.11 (2/2) shows the timing chart of send motor.

2. Function
   1) Send motor rotation and chopper control
      Send motor drive signals are generated by the IC2(IOGA7) and output to send motor via IC7 (motor drive IC) of this circuit.

      Note: The built-in motor control circuit of IC2(IOGA7) consists of the following blocks:
      - Setting of the excitation operation
      - Setting of the chopping operation
      - Setting of the motor excitating method (1-2/2-1 phase excitation)

      a) Send motor rotation control
         There are several cases of the rotation operation:
         Forward rotation for feeding documents.
         - Case 1: Feeding document from hopper to the position where one line data is read.
         - Case 2: Feeding document while reading.
         - Case 3: Feeding document after a page has been read.

      b) Send motor chopper control
         The purpose of chopper control is to reduce the current to the motor by setting the phase signal on and off intermittently when a time lapse exceeding a specific time occurs without a phase update.

   2) Clutch
      When starting to print, performs the paper supply of recording paper by using this clutch. Clutch is driven by clutch signal generated from IC2 (IOGA7).

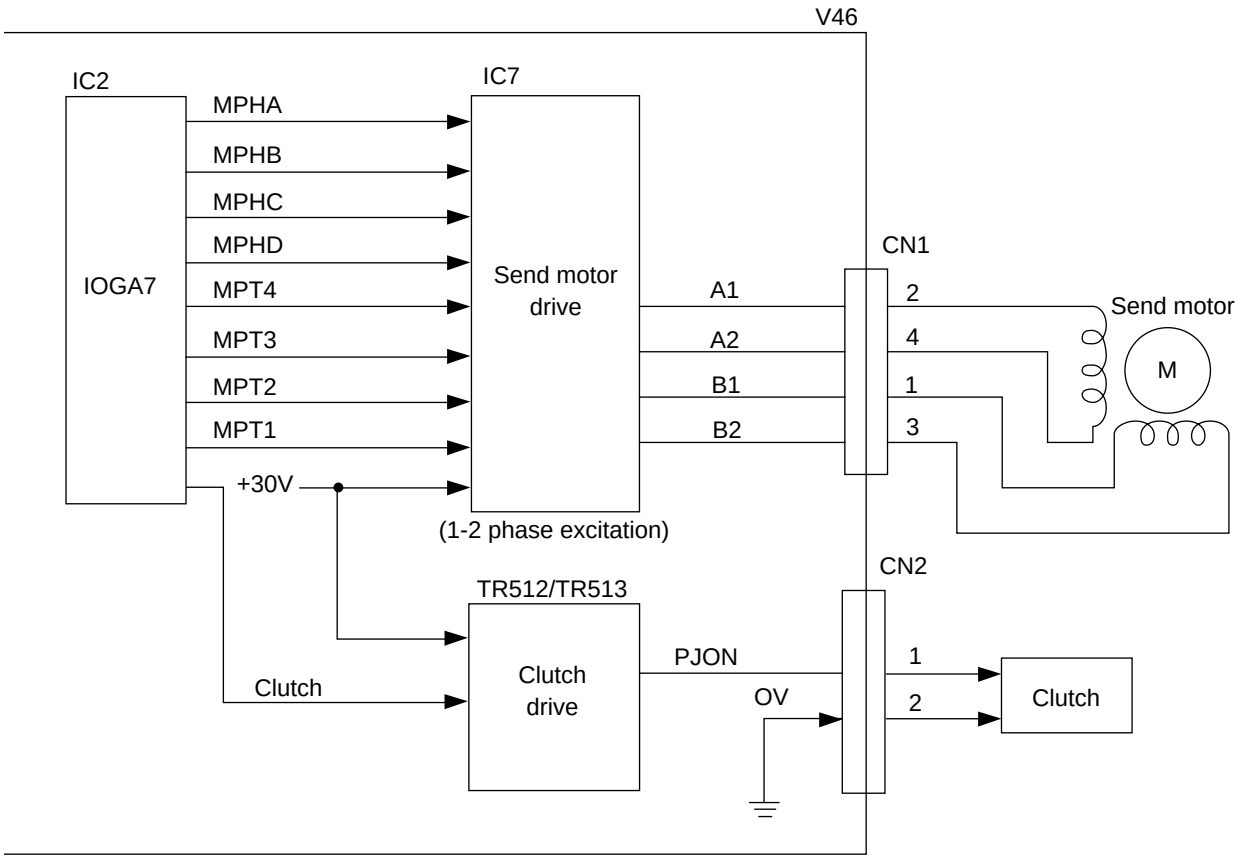


Figure A.11 (1/2) Related Signals of Send Motor and Clutch

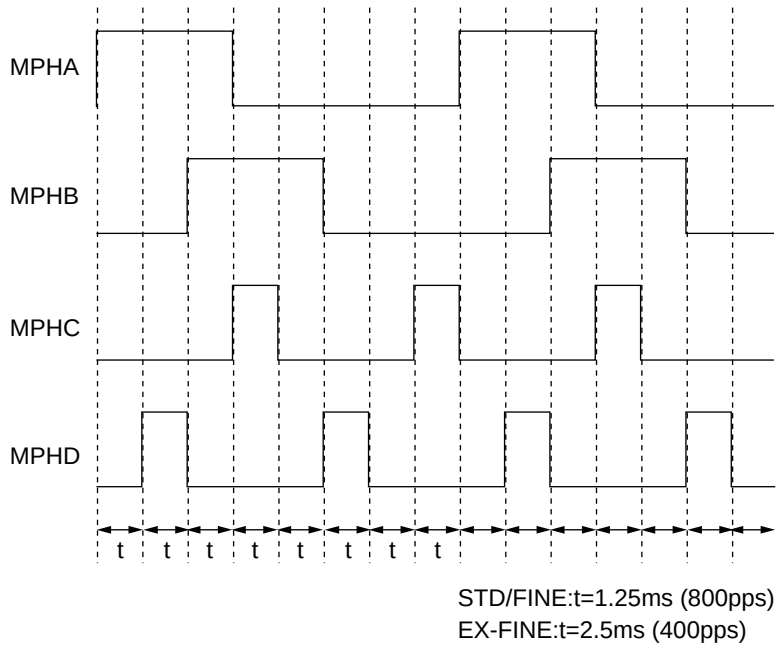


Figure A.11 (2/2) Timing Chart of Send Motor

3.9 V46 Circuit Diagram (11/14)

1. Block diagram
   V46-PCB circuit diagram (11/14) shown the consists of the following connectors.
   • Connector CN11 that provides an interface V46 board and CT2 board, ICP board. CT2 board and ICP board are alternative.

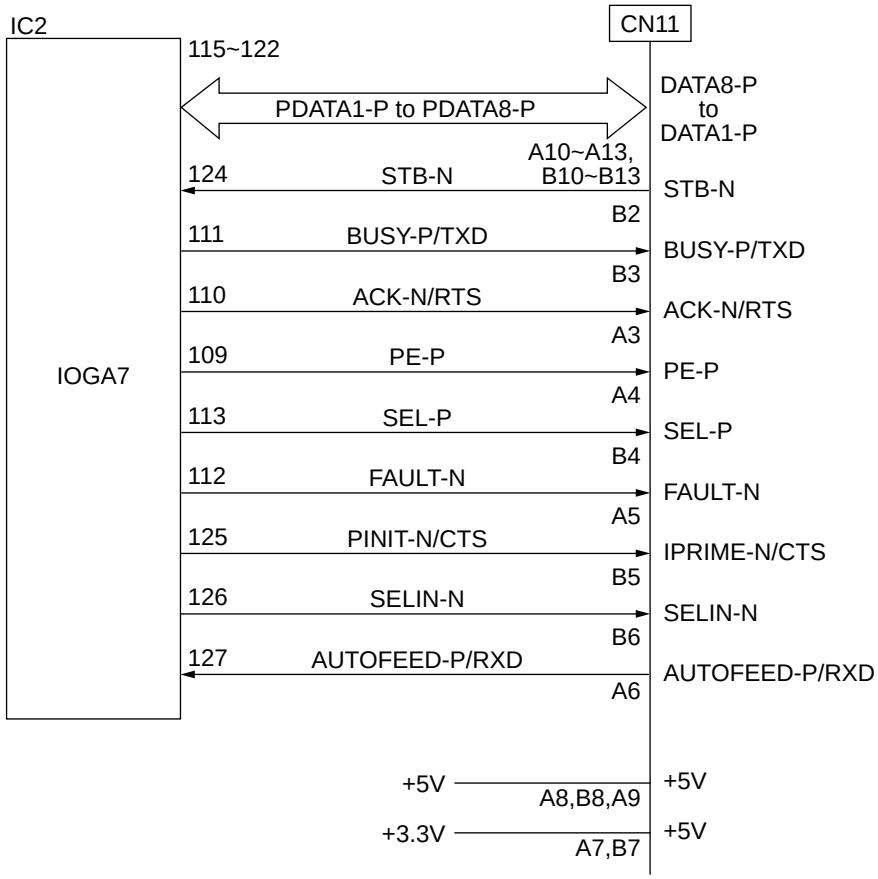


Figure A.12 (1/2) Interface between V46 Board and CT2 board

The LSI sets a BUSY-P signal to ON at the same time when it reads the parallel data (PDATA1-P to PDATA8-P) from the parallel port at the fall of STB-N signal. Furthermore, it makes the store processing of receiving data into a receive buffer terminate within a certain fixed time and outputs an ACK-N signal, setting the BUSY-P signal to OFF.

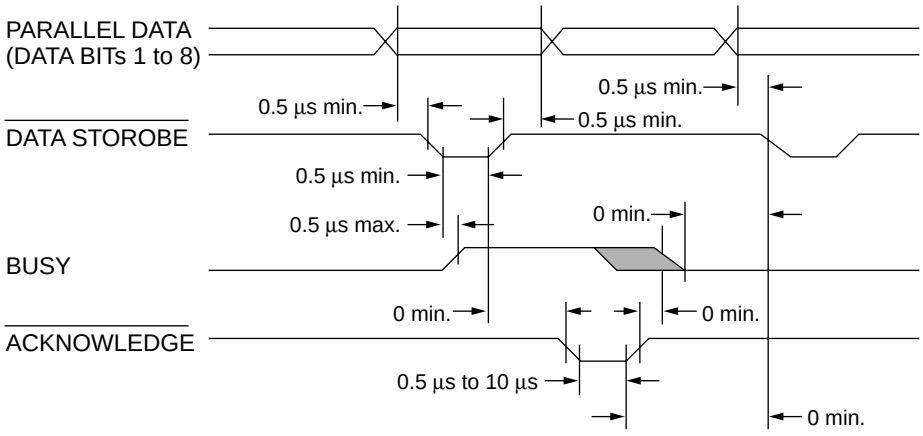


Figure A.12 (2/2) Timing Chart of Centronics Parallel Interface

3.10 V46 Circuit Diagram (12/14)

1. Block diagram
   V46-PCB circuit diagram (12/14) shown the consists of the following connector:
   - Connector CN6 that provides an interface between V46 board and power supply unit (P2H).
   - Connector CN7 that provides an interface between V46 board and power supply unit (MPW1446/MPW1546).
   - Connector CN8 that provides an interface between V46 board and power supply unit (P6L).

2. Function
   1) Sensor and switch control
      Five types of sensors are used in the printer as listed below. All of their output enter IOGA7 ports for referring to and processing by the IC2(IOGA7).
      Figure A.13 (1/4) shows sensors and switch control.

      - Inlet sensor 1
      - Write sensor (To detect the paper top position for printing)
      - Outlet sensor
      - Toner end sensor
      - Cover status switch

      The functions of various sensors are described in the following table.

Table A.2 shows the method of toner low detection

Sensor Type	Sensor Name	Function
PSIN-N	Inlet sensor	This photosensor is positioned before the resist roller to detect whether the paper has entered into the printer section.
WRSNS-N	Write sensor	Detects the arrival of paper at designated position on the paper transport route inside the printer in order to turn on the light of the LED head. 0: Paper exists, 1: Paper does not exist
PSOUT-N	Outlet sensor	Located at the exit of the printer to supervise the paper exit operation. 0: Paper exists, 1: Paper does not exist
TNRSNS-N	Toner sensor	Detects the remaining toner in the toner cartrige. "The length of time of low-toner state within fixed time interval" detects a low-toner state.
CVOPN-N	Cover open sensor	Detects whether the cover of the printer section is open or not. 0: Cover is open, 1: Cover is close

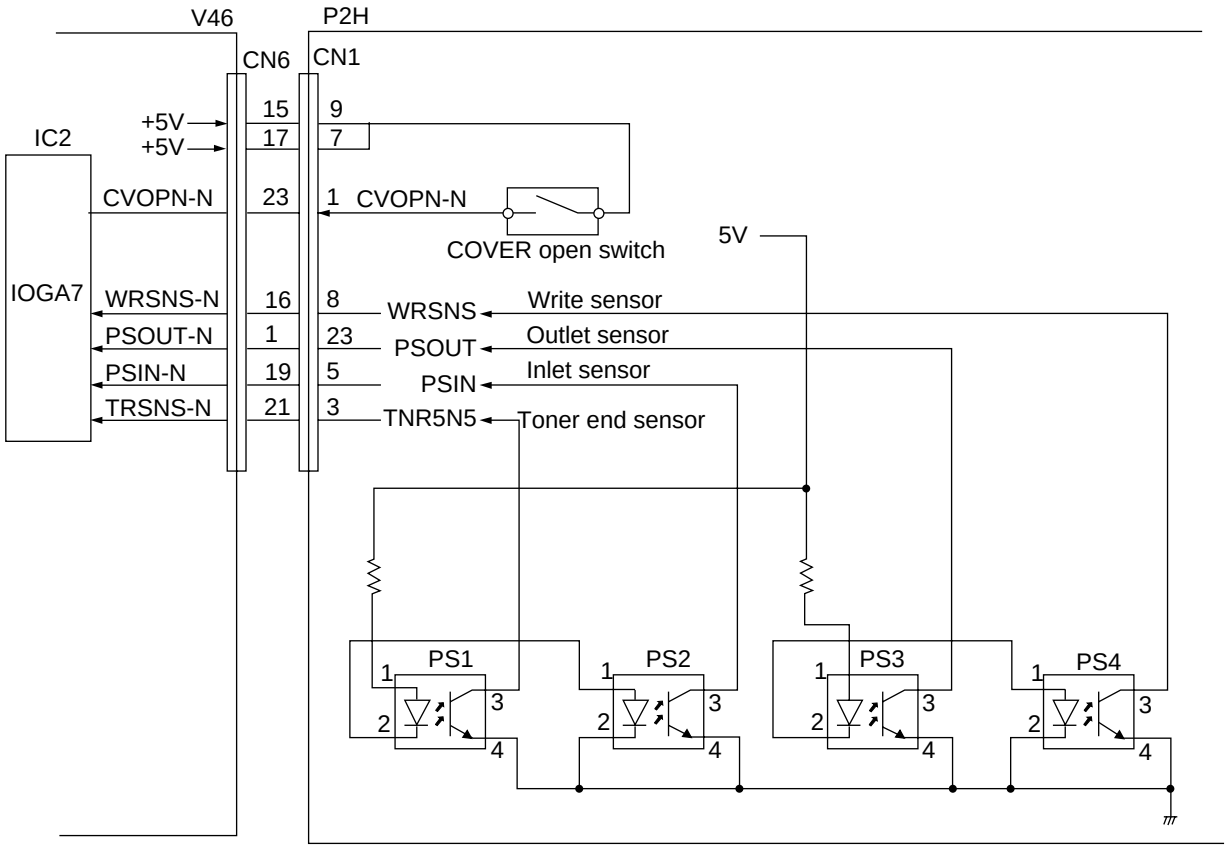


Figure A.13 (1/4) Sensor and Switch Control

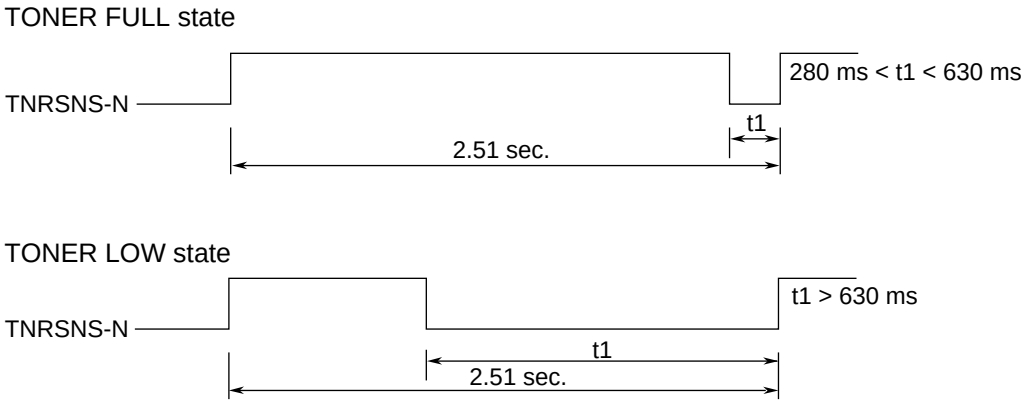


Figure A.13 (2/4) Method of Toner Low Detection

- When the Toner Low state is detected 2 times consecutively, Toner Low is established.
- When the Toner Full state is detected 2 times consecutively, Toner Low is cancelled.
- When there is no change with the toner sensor for 2 cycles (2.51 sec. × 2) or more, then the Toner Sensor Alarm is activated.
- The toner sensor is not monitored while the main (drum) motor is in a halt.

2) Fuser unit temperature control

The heater in the fuser unit is controlled by the thermister, IC2(IOGA7) keeps the heater roller surface within a prescribed temperature range. The CPU supervises the status of THCHK (A/D converter input section) periodically, turning HEATON signal on and off according to CPU of THCHK status to exercise temperature control.

At power on time, the CPU switches the output signal THON from pin 165 (between high and low states) of IOGA7 to check for a blown or shorted thermister according to the status of the THCHK signal.

A built-in thermostat in the fuser unit prevents the heater from being overheated in event of failures in the thermister, or temperature control circuit, etc.

Figure A.13 (3/4) shows the fuser unit temperature control.

Note: Heater control

Temperature of the heater at the time of printing is 150˚C to 180˚C. This temperature is maintained by controlling the on and off operation of heater according to the input of the thermister converted into analogue-digital (A/D) values by the CPU.

2)-1 Heater control

The ACON control signal on the secondary side is transmitted to the primary side via PC4 to turn triac TRA1 for AC voltage supply to the heater.

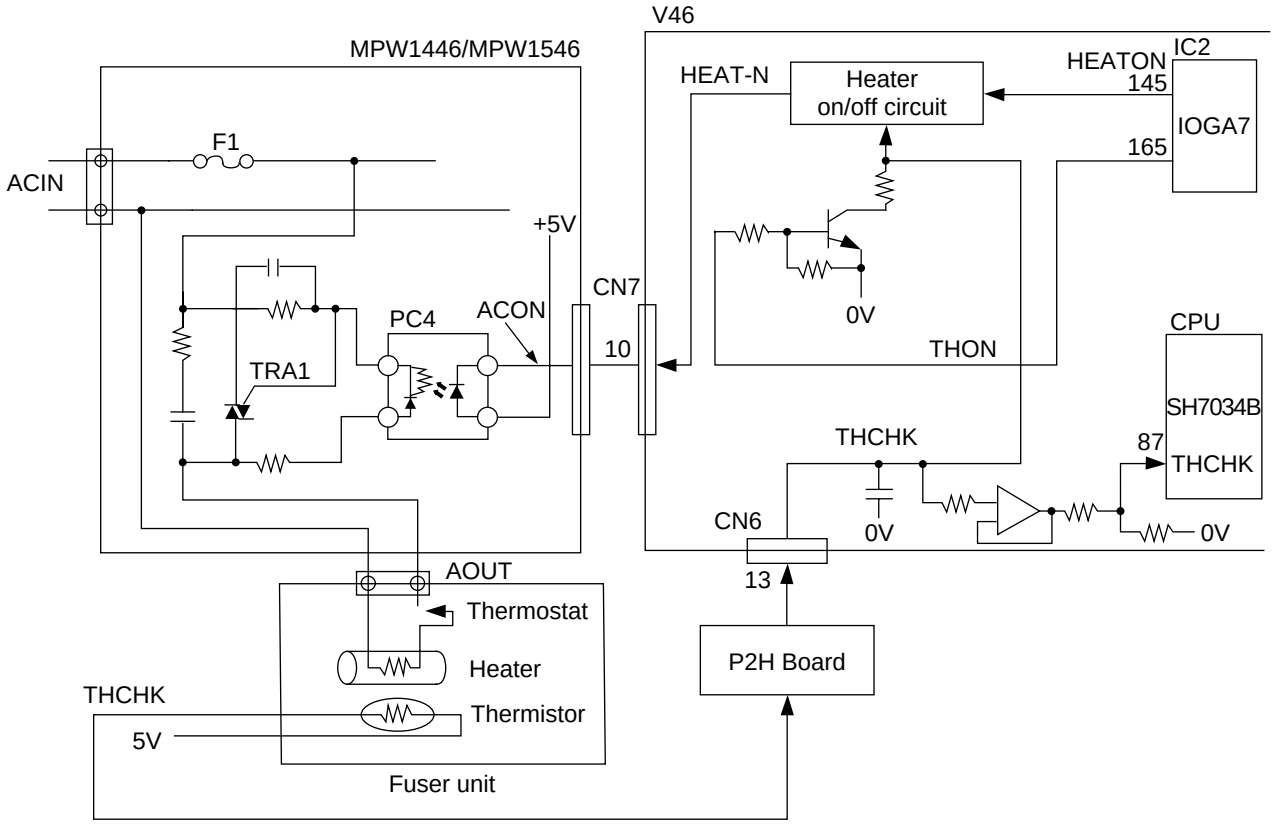


Figure A.13 (3/4) Fuser Unit Temperature Control

3) High-voltage and medium-voltage control

High voltages are activated by IC2(IOGA7) and generated by the high-voltage circuit inside the power supply unit. The CH (charge) voltage of about -1.30kV is used for the charge roller. The TR1/TR2 (transfer) voltage of about +3.9kV/-0.75kV is used for the transfer roller.

Medium voltages are activated by IC2(IOGA7) and generated by the medium-voltage circuit inside the power supply unit. The SB1/SB2 (toner supply) voltage of about +0V/-450V is used for the toner supply roller. The DB1/DB2 (developing) voltage of about +265V/-265V is used for the developing roller. The CB (cleaning) voltage of about +400V/-1.35kV is used for the cleaning roller.

Figure A.13 (4/4) shows high/medium voltages control.

* Signals used to control the high/medium-voltages are listed below.

Signal Name	Description
CHON	"1": CH is output. (-1.30kV)
DBON1	"1": + ive polarity voltage of DB/SB is output. (+265V)
DBON2	"1": - ive polarity voltage of DB/SB is output. (-265V)
TRON1	"1": + ive polarity voltage of TR is output. (+3.9kV)
TRON2	"1": - ive polarity voltage of TR is output. (-0.75kV)
CB1ON	"1": + ive polarity voltage of CB is output. (+400V)
CB2ON	"1": - ive polarity voltage of CB is output. (-1.35kV)

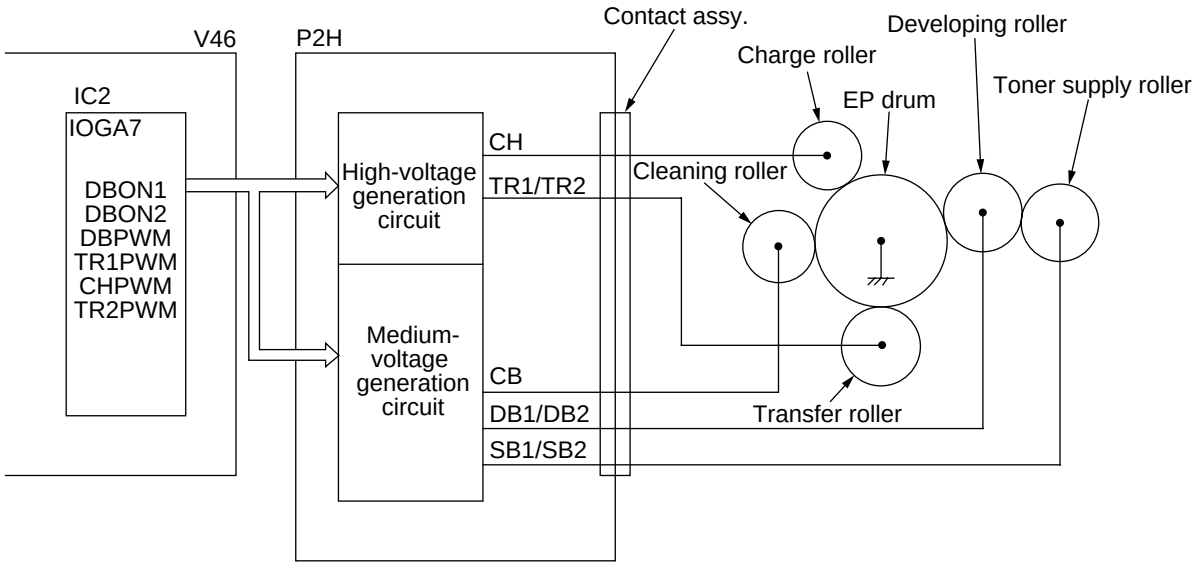


Figure A.13 (4/4) High/Medium Voltage Control

3.11 V46 Circuit Diagram (13/14)

1. Block diagram
   V46-PCB circuit diagram (13/14) shown the consists of the LC821033 (image processing LSI) of IC13.

   Figure A.14 shows the related signals of LC821033.

2. Functions
   LC821033 is developed LSI for the image processing.
   LC821033 contains the following functions:
   • Contact image sensor driver
   • Line buffer control

   LC821033(Image LSI) Specifications
   The analog image data from the image sensor is amplified about 3.2 times in the external non-reverse amplifier circuit and the amplified analog data is input to this LSI chip. In this LSI chip, the analog data is converted to digital data by the built-in A/D converter and the digital data is corrected by the internal correction function, thus sending binary-coded data to the IOGA6 every eighth pixel normally. When contrast is corrected, multi-valued data is sent for each pixel. When horizontal scanning lines are skipped, a request is suppressed every three requests. A sensor drive signal (CLK1) and motor synchronizing signal (SH) are output to the image sensor.

   The timing of data transfer to/from the IOGA7 is shown below.

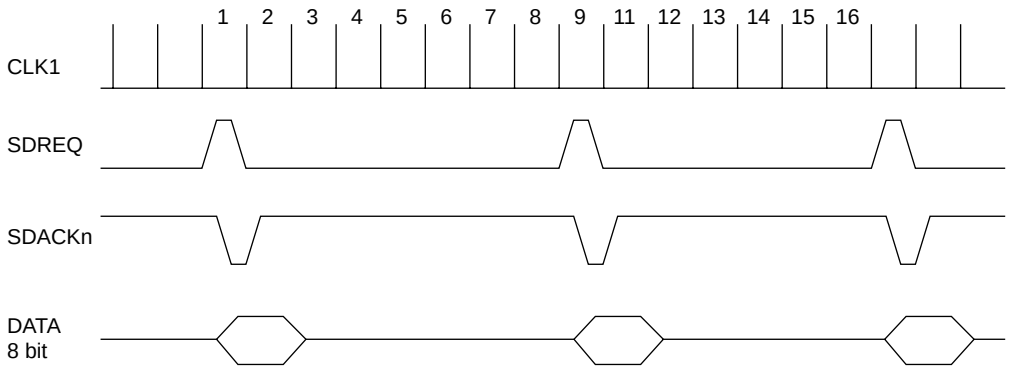


Figure A.14 Timing Chart of LC821033

3.12 V46 Circuit Diagram (14/14)

1. Block diagram
   V46-PCB circuit diagram (14/14) shown the consists of the following functions:
   • Connector CN5 that provides an interface between V46 board and CIS (contact image sensor).

   Figure A.15 (1/2) shows the related signals and block diagram of CIS.

2. Function
   One-line picture data is read in the sequence from the scanning unit (CIS) as SIG signal (analog data) to IC13. Here, the picture data undergoes various kinds of picture processings.

   Sensor interface signal output from IC13(LC821033)
   • LEDON : LED on/off control signal
   • SNSCLK : Scanning sensor drive clock (1.25 MHz)
   • MISP : Scanning synchronous signal (2.5 msec)

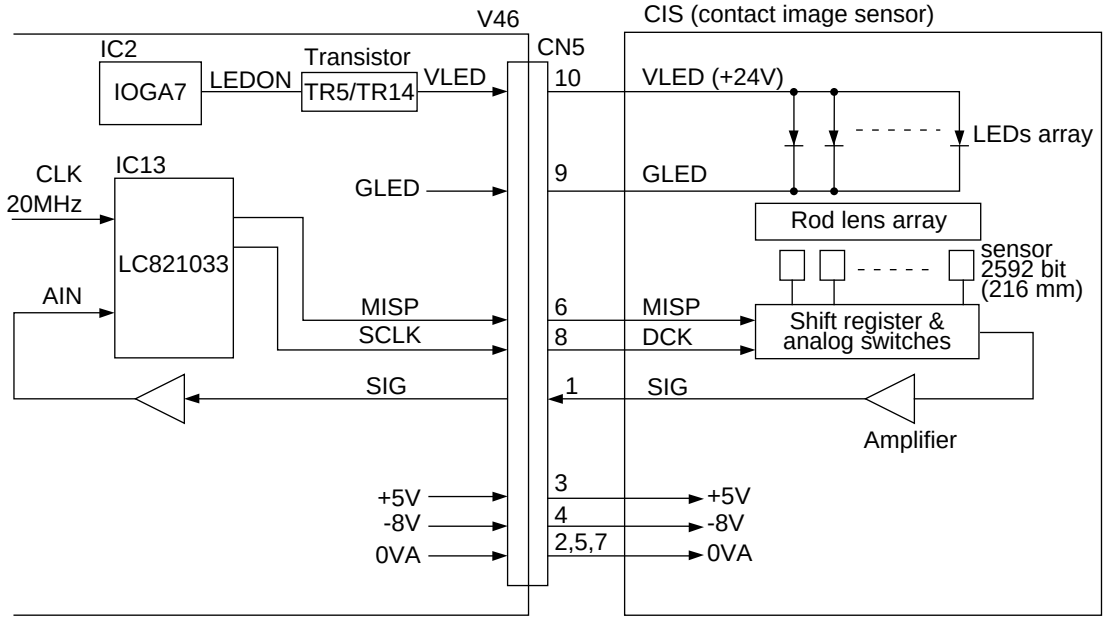


Figure A.15 (1/2) Related Signals and Block Diagram of CIS (Contact Image Sensor)

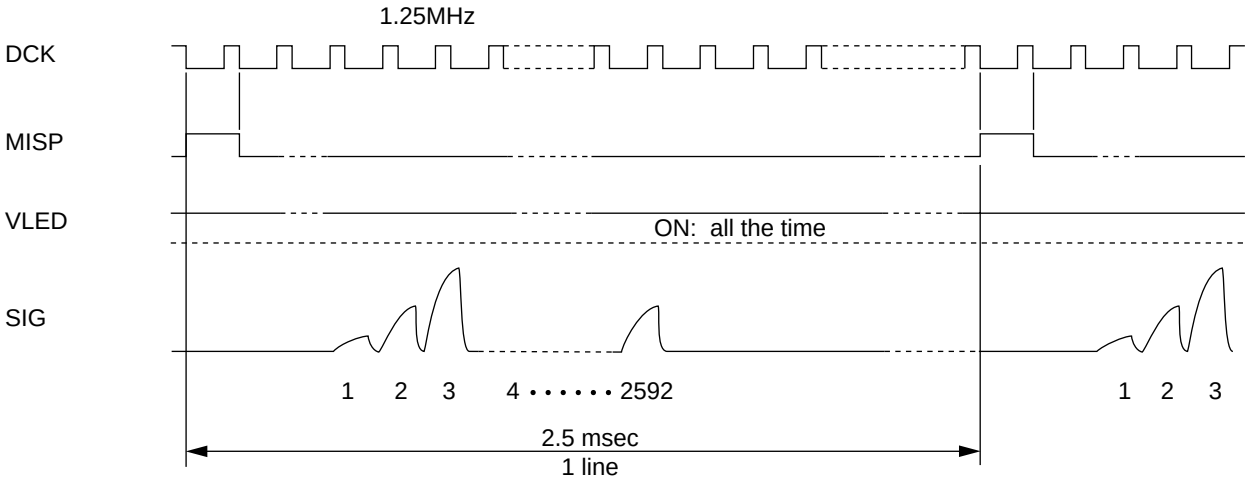


Figure A.15 (2/2) Signal Timing of CIS (Contact Image Sensor)

4. OPE (04S) Circuit Diagram

1. Block diagram
   Figure A.16 shows a block diagram of OPE (04S).

   The 04S (operation unit) circuit consists of the following blocks:

   1) IC1 (one chip MOS-CPU)

      • Output ports
        Setting LEDs on and off: 8 ports
        Specifies the row during key switch matrix scanning: 8 ports
      • Input ports
        Detect the column whose key is pressed: 8 ports

   2) Key switch matrix (8 rows x 8 columns)

   3) LEDs (8 LEDs)

   4) LCD unit

2. Key switch scanning
   Output ports (KSCAN0 to KSCAN7 signal) corresponding to 8 rows of key matrix are scanned sequentially by the software. In the case 1 is any of output from KSCAN0 to KSCAN7 signal which corresponds to the row 8 in the block diagram, the software reads input port, KSENS0 to KSENS7, and determines which in the row 8 is pressed.

3. LED drives and LEDs
   Eight LEDs (ALARM, PHOTO, LIGHT, etc.) on the control panel are driven by output of IC1 via resistors R1, R4-9 and R11 respectively. An LED lights on when a port output is 1.

4. In case sub-power supply is applied to the fax machine: when PC1-N, HUP-N or RIINT signal is input to OPE unit, OPE unit controls the main power supply (TLHV board) by outputting the MP/OFF (ACON) signal.

   • PC1-N: Presence of document on hopper
   • HUP-N: OFF-Hook detection for TEL 1 and TEL 2 terminal
   • RIINT: Ringing detection signal

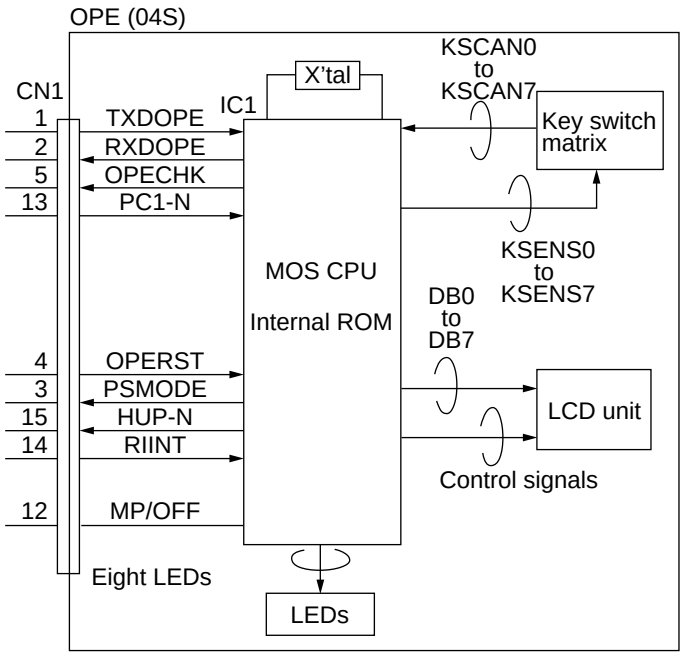


Figure A.16 Block Diagram of OPE (Operation Unit)

5. Power Supply Unit

5.1 MPW1446 (230V)/MPW1546 (120V) Circuit Diagram

IMPORTANT:
Oki Data Corporation recommends that maintenance of the Power supply unit (MPW1446 (230V)/ MPW1546 (120V)) be performed by replacement of a unit, not by replacement of components.

Therefore,
1) circuit descriptions in this section are for reference.
2) orders for components of the power supply unit cannot always be accepted.

Functions of unit:
The circuit generates the following direct currents (DC) based on the alternating current,
AC 120 V+6%, -15%
AC 230 V+15%, -14%

1. Low-voltage power supply circuit

   This circuit generates the following voltages.

2. Input ratings

Output Voltage	Output Voltage
+5V	Logic circuit supply voltage (IC, LSI), and high-voltage source voltage
-8V/+24V	CIS (contact image sensor)
+26V	Send motor, drum motor and clutch

• Voltage : AC 120 V +6%, -15% (AC 102 V to 127 V)
AC 230 V +15%, -14% (AC 198 V to 264 V)

• Frequency : 50 Hz/60 Hz +/-2%

3. Output ratings

Pin No. CN003	Rated Voltage	Rated Current	Current Range	Voltage Range	Output Ripple	Output Noise
2, 3	+5V	1.5V	0.2~4.4A	+4.9~+5.3V	100mV	250mV
8	+26V	1.3V	0~1.3A	+26~+40V	500mV	
1	+24V	0.2V	0~0.2A	+22.8~+25.2V	50mV	100mV
9	-8V	0.1V	0~0.1A	-6.5~-12.0V	100mV	250mV
12	+5VS	20mA	15~50mA	+5.0~5.4V	100mA	250mA

4. Block diagram

   Figure A.17 shows a block diagram.

   * The information contained herein can change without notice owing to product and/or technical improvements.

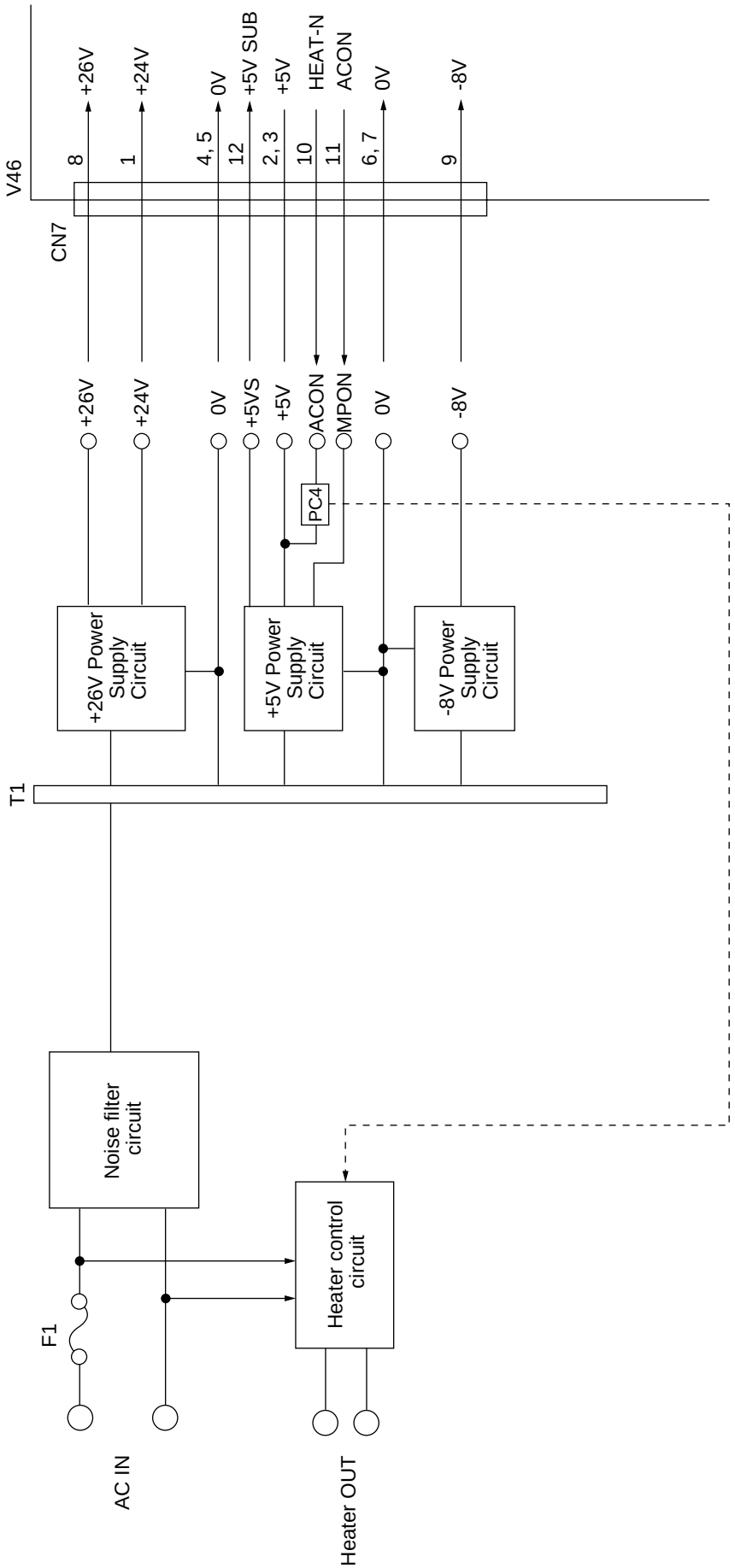


Figure A.17 Block Diagram

6. P2H Circuit Diagram

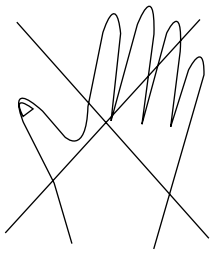
This circuit consists of photo-sensors and high voltage generation unit.

Note: If the high-voltage unit inside the P2H circuit board is replaced, the output voltage and current output from the terminals must be checked and adjusted. This section does not describe the checking and adjustment methods, however.

DANGER

Do Not
Touch !

HIGH VOLTAGE



You may be subjected to high-voltage electric shock by touching the following parts without an insulating material:

a. High-voltage unit

b. Contact ass'y

High voltage outputs are connected to the contact ass'y as shown below:

6.1 High-voltage section

6.1.1 Functional overview

The high-voltage outputs consist of TR1 (3.9 kV), TR2 (-0.75 kV), DB1 (+265 V), DB2 (-265 V), SB2 (-550V), CB1 (+400 V), CB2 (-1.35 kV) and CH (-1.30 kV) and are obtained as follows. The control signal obtained from IOGA7 of V46 board is applied to High-voltage power supply circuit. As result, the driver current is applied to the drive circuit, which will provide the high-voltage outputs.

Note:

Signal Name	Output Voltage	Application	Board
SB1/SB2	0–5 V/-550 V	Voltage applied to toner supply roller.	P2H
DB1/DB2	+265 V/-265 V	Voltage applied to developing roller.	P2H
TR1/TR2	+3.9 kV/-0.75 kV	Voltage applied to transfer roller.	P2H
CH	-1.30 kV	Voltage applied to charging roller.	P2H
CB1	+400 V	Voltage applied to cleaning roller.	P6L
CB2	-1.35 kV	Voltage applied to cleaning roller.	P6L

6.1.2 SB2, DB1, DB2 (P2H)

1) These four high-voltage outputs are obtained from the flyback voltage of Q10.

2) The positive and negative voltages of DB1 and DB2 are obtained by switching the charging direction under the triac and thyristor.

3) Feedback is not applied to these outputs. However, SB2 is limited by D85 and DB2 is limited by D84 so as not to provide an output exceeding a preset voltage.

6.1.3 TR1 and TR2 (P2H)

1) The TR1 high-voltage is obtained by rectifying the secondary output of Q17 switching circuit by a voltage-doubler rectifier.

2) TR1 output circuit has both constant current (hereinafter called CC) and constant voltage (hereinafter called CV) modes.

3) At first, TR1 output circuit operates in the CC mode. Once the voltage determined by parameters such as roller and medium is obtained, this circuit changes to operate in the CV mode by the control signal.

4) The TR2 output voltage is regulated by keeping the voltage obtained by switching operation of Q15 at a constant voltage by D66 and D65.

6.1.4 CH (P2H)

1) The CH output voltage is stabilized by keeping the primary flyback voltage obtained by switching operation of Q16 at a constant voltage by D76 and D82.

6.1.5 CBI, CB2 (P6L)

1) The CB1 output voltage is stabilized by keeping the primary flyback voltage obtained by switching operation of Q2 at a constant voltage by D7 and D6 and D5.

2) The CB2 output voltage is stabilized by keeping the primary flyback voltage obtained by switching operation of Q1 at a constant voltage by D7 and D6 and D5.

6.2 Photosensors

The photosensors mounted on this circuit board/sensor board supervise the paper running state during printing. These four photosensors are used in this printer as listed below. All of their outputs enter V46 board.

1) PS1 (photosensor 1): TNRSNS

   Detects the lack of the toner.

2) PS2 (photosensor 2): PSIN

   Detects the leading part of the paper and gives the supervision timing for switching from hopping operation to feeding operation. Supervises the paper running state and the paper size according to the paper arrival time and running time.

3) PS3 (photosensor 3): PSOUT

   Supervises the paper feed according to the time of arrival at the sensor and the time of passage of paper.

4) PS4 (photosensor 4): WRSNS
   Detects the leading part of sensor.
   Supervises the paper running state.

6.3 Cover open circuit

The cover open circuit consists of CVSW. When the Cover-Main is opened, the cover open microswitch (CVSW) on the OLHV/TLHV board is turned off to cut the supply of H5V to the high-voltage power supply circuit. As a result all high-voltage outputs are interruptted. At the same time, the CVOPN-N signal is sent to the control board to notify it the off state of the microswitch, and the control board performs the cover open processing.

7. EN9/EN2 and INU Circuit Diagram

The NCU board is selected from EN9/EN2 and INU because it differs depending on country's specifications. EN9 and EN2 are functionally equipment, although EN9 is a 2-layer PCB and EN2 is a single-layer PCB.

- EN9/EN2
  UK, Flance, EC countries
- INU
  US, Canada, Australia, New Zealand, Singapore, China, Malaysia,
  non-EC countries (Poland etc.)

1. Block diagram
   - Figure A.18 shows a block diagram of EN9/EN2 circuit.
   - Figure A.19 shows a block diagram of INU circuit.

2. General functions of this circuit are as follows:
   1) Generates and detects signals to be exchanged with a telephone exchange or network in Phases A defined by ITU T.30.
      - Loop formation for call origination
      - Line current detection (see note 1) before call origination
      - Dial tone detection (see note 1)
      - Generation of dial pulses (see note 2)
      - Busy tone detection (see note 1)
      - Ringing signal detection

   2) Sends various data and signals from the V46 board to the telephone line after amplification.
      - Picture data/Protocol/Tonal signals/MF tone, etc.

      Note1: This procedure may be omitted depending on the dial parameters.
      2: MF (Multi-frequency) tone is generated by the modem and transferred to the telephone line via the NCU board.

3. Explanation on CN3 Terminals

CN3 pin No.	Terminal name	Explanation	EN9/EN2	INU
36	OH2	Detection of off-hook of terminal connected to TEL-1 or TEL-2.		
40	RI	0 - 5 V signal output synchronized with the ringing signal frequency		
24	PP	Relay control signal for special service code detection at parallel pickup or remote reception		
13, 14, 41, 42	GND	Ground		
37, 38	sub + 5 V	Sub power supply for OH2 and RI detection		
33, 34	+ 5 V	Power supply for relays and logic circuits		
43	+ 5 VA	+5 V power supply for analog circuit		*
44	S	TX Signal		
45	– 5 VA	– 5 V power supply for analog circuit		*
48	R	RX Signal		
46, 47, 49	SG	Signal ground		
50	Rp	Receiving sensitivity determination terminal		
22	DP	Pulse dial control signal		
20	CML	Line seizure control signal		
30	F. ICC	Loop current control signal upon line seizure		*
28	SR	Control signal for connection between LINE and TEL terminals		
18	MUTE	Control signal for pulse dial improvement and bell shunt relay		

Note *: Unused.

7.1 EN9/EN2 circuit diagram

① Lightning arresters (AR1, 2)
The nominal operating voltage is 500 V.
When connecting the ground of the arrestor to the chassis, tighten ARG on the PCB with a screw. At this time, the PCB is grounded through the power cable.
The TB1 arrestor ground terminal can also be used to connect to the earth directly.

③ Diode bridge (DB1)
This circuit rectifies the loop current so that the DC circuit characteristics are not affected by a polarity change over the line.

④ DC circuits (Q1, R506, R507, C4, R602)
These circuits provide DC characteristics according to the line requirements.

⑤ Impedance matching network (R510, R512)
This circuit matches the impedance between the line and equipment to reduce reflection of transmitted signals.

⑥ Receiving sensitivity (R517, R518, C520)
The receiving sensitivity at line hunting is determined by R518, C520 and the MF tone receiving sensitivity at parallel pickup is determined by R517, R518, C520.

⑦ CML (RL1)
This circuit selectively switches the line between the telephone or facsimile.

⑧ SR (RL2)
This circuit connects the line with the telephone. During facsimile transmission, it disconnects the telephone.

⑨ DP (IC2)
This circuit generates pulse dial signals.

⑩ MUTE (IC3)
During pulse dialing, this circuit closes to reduce the DC loop resistance.

⑪ PP (RL6)
When it detects MF or CNG tones without seizuring a line, it disconnects NT (5) to increase the input impedance and also sets the receiving sensitivity.

⑫ MUTE (RL3)
During pulse dialing, this circuit opens to prevent pulse distortion caused by capacitor C7. When it detects MF or CNG tones without seizuring a line, it opens to increase the impedance.

⑬ Pickup RC (R505, C5)
These circuits insert a high-impedance resistor and capacitor serially to prevent the line impedance from dropping by the line transformer T1.

⑭ Ring detectors (IC1)
These circuits detect a ring signal arriving to the line. If the input ring signal exceeds a specific voltage, the circuits output a signal of RI having the same frequency as the incoming RI.

⑮ Line transformer (T1)
This circuit processes send/receive signals required for facsimile transmission, dial tone receive signals required for automatic dialing, and MF tone send and remote receive signals. It separates between the line and equipment in terms of DC and also keeps a balance between the line and the ground.

⑯ Off-hook detectors (IC8, RL7)
These circuits detect the off-hook state of the telephone connected to the TEL1, TEL2, through LINE terminals. IC8 uses a high detection sensitivity than of RL7. In TEL/FAX mode, the higher sensitive IC8 is used to detect the off-hook state of the telephone while the main equipment is hunting a line.
Usually, IC8 is short-circuited by the CML relay (7) in the standby state and RL7 is used for off-hook detection.

㉗ FICC (IC4)
This circuits reduces the DC resistance to increase the loop current momentarily to assure operation of the switch at line seizuring.

㉘ Constant current circuits (Q502 and Q503)
These circuits provide DC characteristics according to the TBR-21 requirement.

㉙ Shunt (RL9)
This circuit prevents bell resonances in the telephone sets connected in parallel during pulse dialing and also reduces distortions of the pulse waveform.

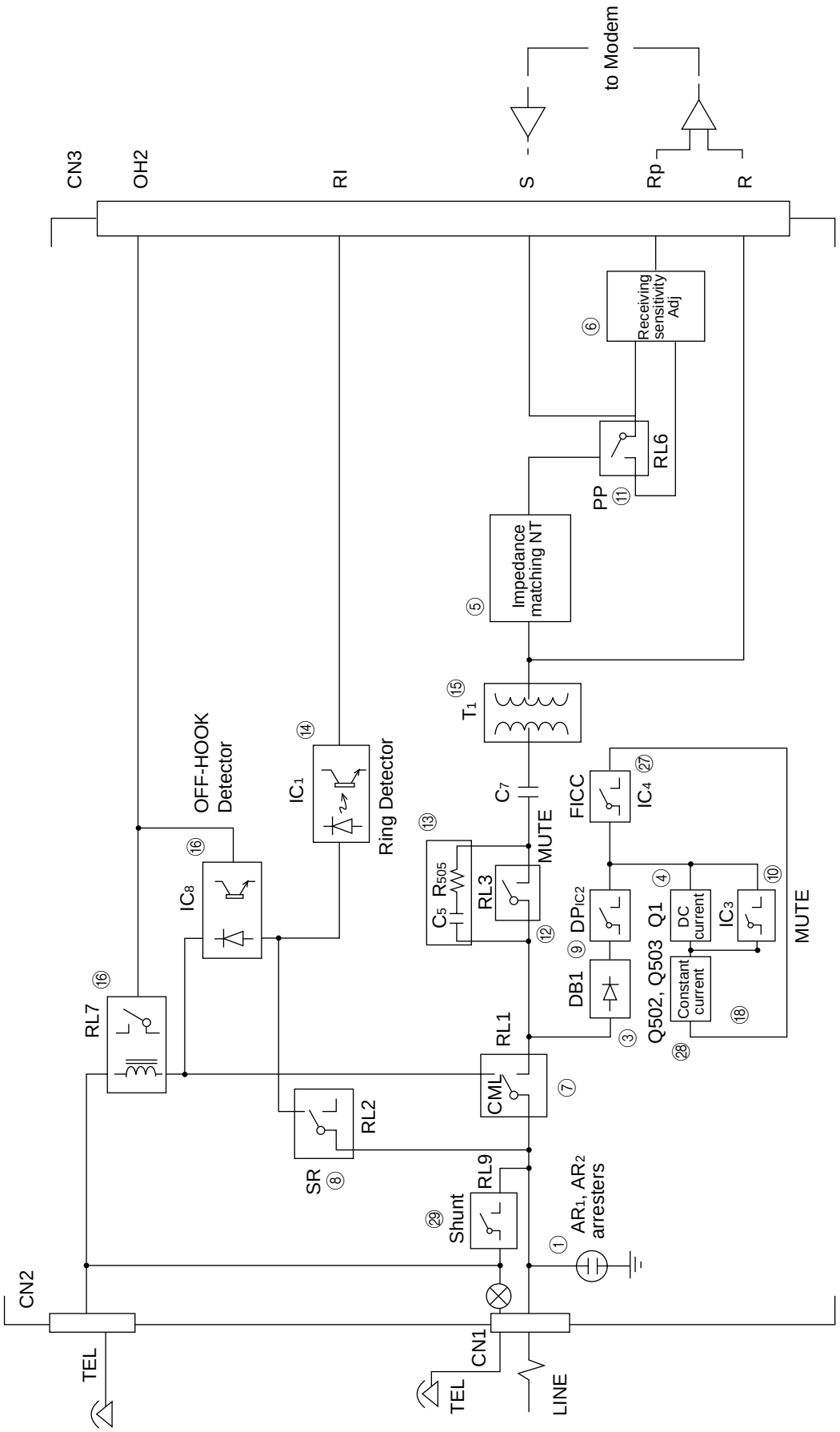


Figure A.18 Block Diagram of EN9/EN2

7.2 INU circuit diagram

① Lightning arresters (AR1, 2)
The nominal operating voltage is 500 V.
When connecting the ground of the arrestor to the chassis, tighten ARG on the PCB with a screw. At this time, the PCB is grounded through the power cable.
The TB1 arrestor ground terminal can also be used to connect to the earth directly.

③ Diode bridge (DB1)
This circuit rectifies the loop current so that the DC circuit characteristics are not affected by a polarity change over the line.

④ DC circuits (Q1, R506, R507, C4, R602)
These circuits provide DC characteristics according to the line requirements.

⑤ Impedance matching network (R544, C513, R545, R510, C502, R512, R511, C503, R513)
This circuit matches the impedance between the line and equipment to reduce reflection of transmitted signals.
It provides impedance (return loss) characteristics to meet the line requirement using the connector keys (CN15 to CN35).

⑥ Receiving sensitivity (R516, R515, R543, R519, R520, R546)
The receiving sensitivity at line hunting is determined by R519, R520, R546 depending on the line impedance. Similarly, the MF tone receiving sensitivity at parallel pickup is determined by R516, R515, R543, R519, R520, R546. The receiving sensitivity is set using connector keys (CN15 to CN35).

⑦ CML (RL1)
This circuit selectively switches the line between the telephone or facsimile.

⑧ SR (RL2)
This circuit connects the line with the telephone. During facsimile transmission, it disconnects the telephone.

⑨ DP (IC2)
This circuit generates pulse dial signals.

⑩ MUTE (IC3)
During pulse dialing, this circuit closes to reduce the DC loop resistance.

⑪ PP (RL6)
If this circuits detects MF or CNG tones without seizuring a line, it disconnects Impedance matching Net work (5) to increase the input impedance and also sets the receiving sensitivity.

⑫ MUTE (RL3)
During pulse dialing, this circuit opens to prevent pulse distortion caused by capacitor C7. If it detects MF or CNG tones without seizuring a line, it opens to increase the impedance.

⑬ Pickup RC (R505, C5)
These circuits insert a high-impedance resistor and capacitor serially to prevent the line impedance from dropping by the line transformer T1.

⑭ Ring detectors (IC1)
These circuits detect a ring signal arriving to the line. If the input ring signal exceeds a specific voltage, the circuits output a signal of RI having the same frequency as incoming RI.

⑮ Line transformer (T1)
This circuit processes send/receive signals required for facsimile transmission, dial tone receive signals required for automatic dialing, and MF tone send and remote receive signals. It separates between the line and equipment in terms of DC and also keeps a balance between the line and the ground.

⑯ Off-hook detectors (IC5)
These circuits detect the off-hook state of the telephone connected to the TEL.

⑰ Impedance switches (CN15 to CN35)
These circuits set the impedance according to the line requirement.
220: 220 ohm + 820 ohm//115 nF (CN15)
370: 370 ohm + 620 ohm//310 nF (CN35)
600: 600 ohm (CN25)

⑲ Ring impedance switches (S1-1, 2)
These switches set the ring impedance according to the line requirement.

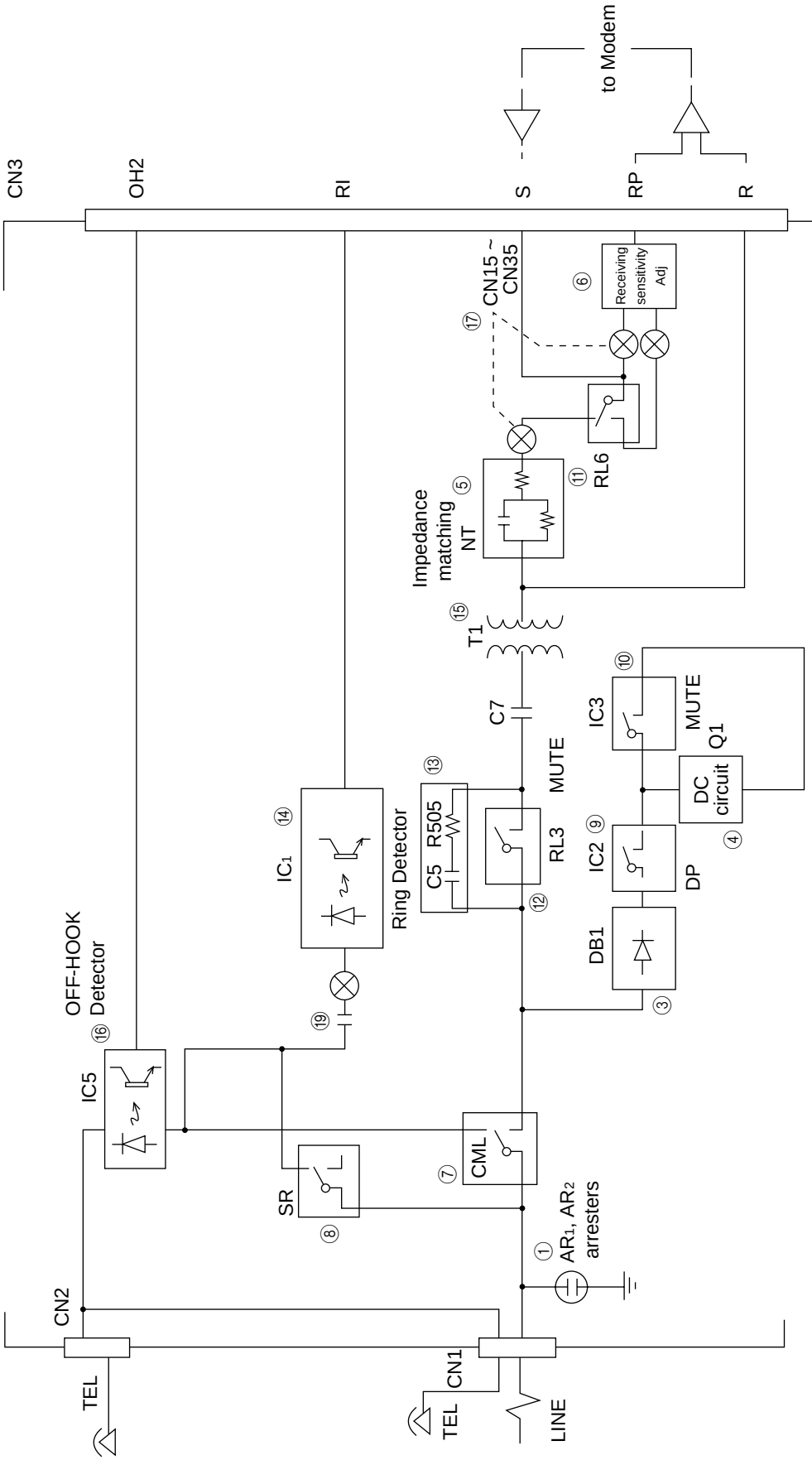
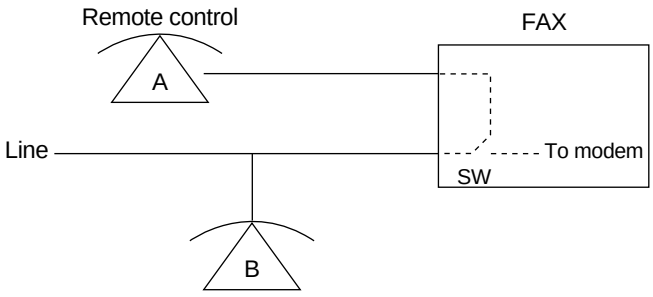


Figure A.19 Block Diagram of INU

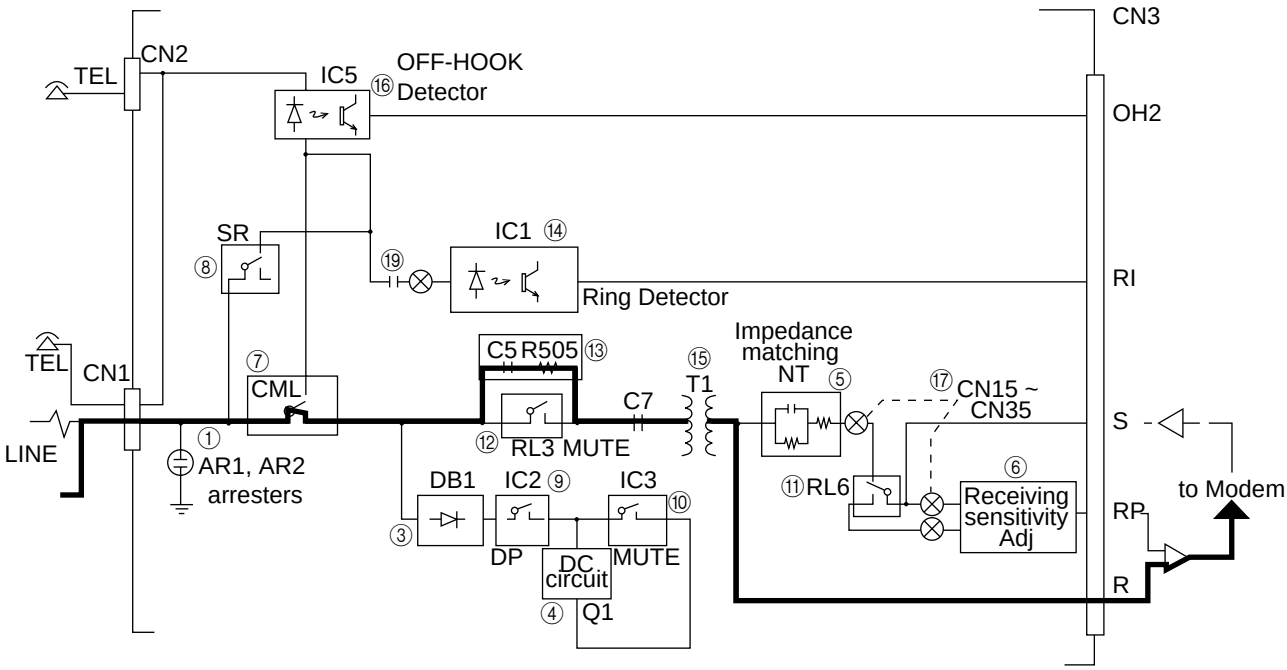
7.3 Outline of Parallel Pick Up

Parallel pick up is a function that controls a fax (to make a fax in receive mode) from a telephone set connected parallel to a fax. The two possible parallel connections of telephone sets A and B are shown in the figure.



Remote control: To control a fax from telephone set A.
Parallel Pick UP (PP): To control a fax from telephone set B.

- Why a PP function is needed!
  As shown in the following block diagram, telephone sets B, A and A'' are connected to a telephone line.
  Since A and A'' are connected to the line via fax, off-hook status of any of the telephone sets can be detected by the OFF-HOOK Detector F in the block diagram. However, off-hook status of telephone set B cannot be detected by the fax side.
- PP Control
  When a normal ring arrives at the fax from the line, the CML 7 turns on resulting in the formation of an AC loop via circuit C. The AC loop makes it possible for the modem to detect the AC signals. If a user hooks up telephone set B after the first ring and enters the MF 2-digit special code in order to make the fax in the receive mode, then it becomes possible to detect the MF signals along that route.



Block diagram for Parallel Pick Up Path.

8. G4N-PCB

This PCB board is optionally available. Using this board allows the system to be ready for the G4 protocol.

The block diagram of this board is shown on the next page.

This board is connected to the V46 board with a 50-pin connector (CN1). 23 pins of this connector are signals lines dedicated to the G4N board, and the remaining 27 pins are signal lines shared with the NCU board.

Data is transferred to/from the CPU on the V46 board via the 2-KB dual port RAM. When data is sent, the V46 board causes an interrupt to the G4N board using a CUREQ-N signal and writes data into the 2-KB dual port RAM. The G4N board expands the data from the dual port RAM in the DRAM, and sends the expanded data to the line via the driver.

When data is received, the G4N board causes an interrupt to the V46 board using an OPREQ-N signal and writes data from the DRAM into the dual port RAM. The V46 board reads data from the dual port RAM, expands the data in the DRAM on the V46 board, and sends the data to the LED head via the IOGA7.

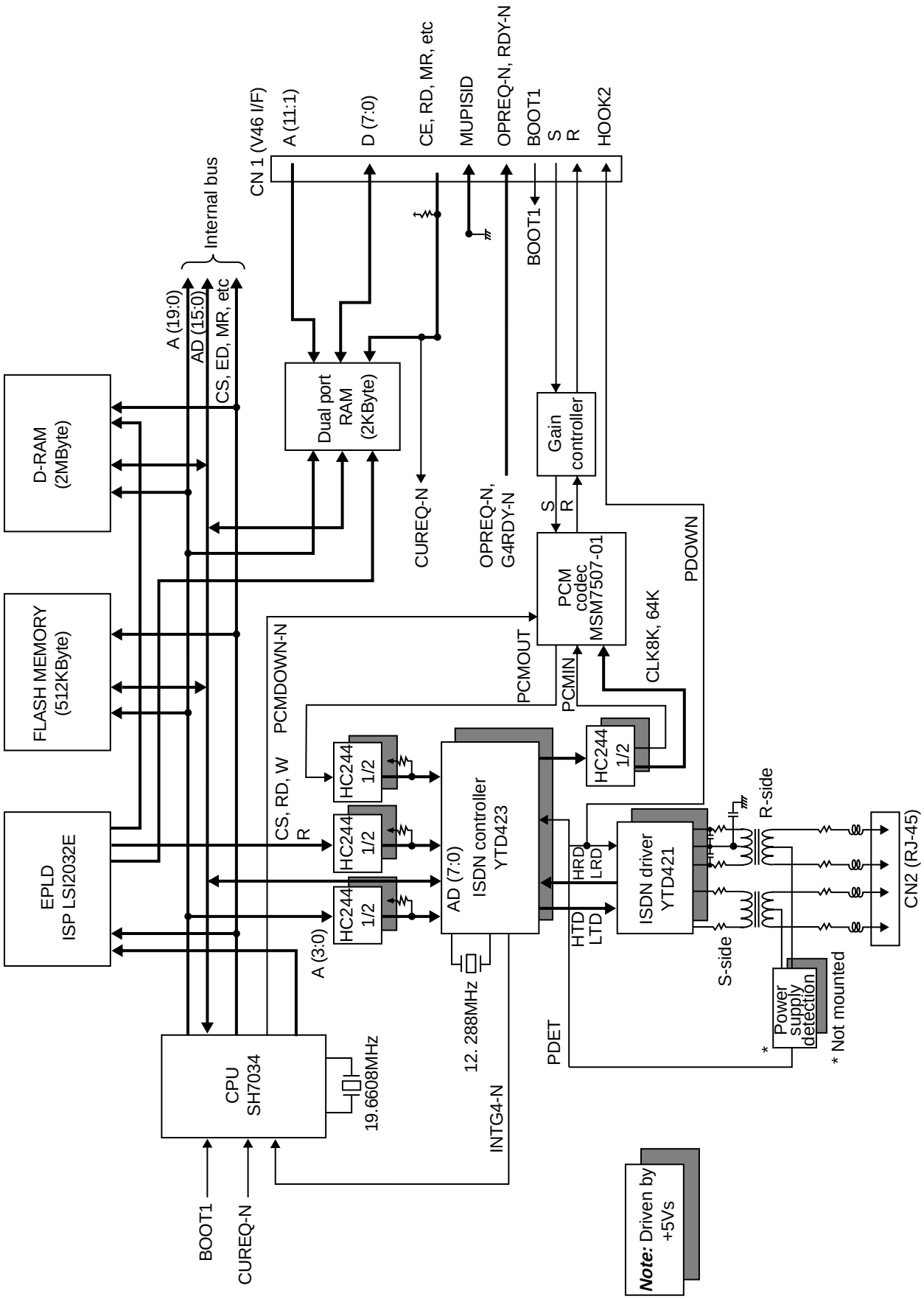


Figure A.20 G4N Board Block Diagram

APPENDIX B DESCRIPTIONS OF PRINT OPERATION

1. Electro-Photographic Processor

The electro-photographic processor prints out the image data to be sent from the main control board on sheets of paper. Figure B-1 shows the layout drawing of the electro-photographic processor.

(1) Image drum unit
The image drum unit makes a toner adhere to the formed electrostatic latent image with static electricity. This electrostatic latent image is formed by the lights irradiated from LED heads.

(2) Electromagnetic clutch
The electromagnetic clutch controls the rotation of the hopping roller according to signals from the control block.

(3) Pulse motor (Main)
This pulse motor of 48 steps/rotation is two-phase excited by the signal from the main control board; it performs feeding control by switching normal rotation to reverse rotation or vice versa and turning on/off the electromagnetic clutch. The relationship between the main motor, electromagnetic clutch, regist gear, drum gear, hopping roller is shown in the table below and on the subsequent pages.

(4) LED head
The shift and latch registers receive image data from the main control board for each dot line. 2,560 or 2,496 LEDs are driven to radiate the image drum.

(5) Heat Assy
The heat Assy consists of a heater, a heat roller, a thermistor, and a thermostat.

The power supply unit supplies AC voltage to the heater according to the HEATON signal from the main control board to heat the heat roller. The main control board monitors the heat roller temperature via the thermistor and keeps the temperature constant by turning on/off the heater AC voltage supply.

If the heat roller temperature rises abnormally, the thermostat of the heater voltage supply circuit functions to forcibly suspend the AC voltage supply.

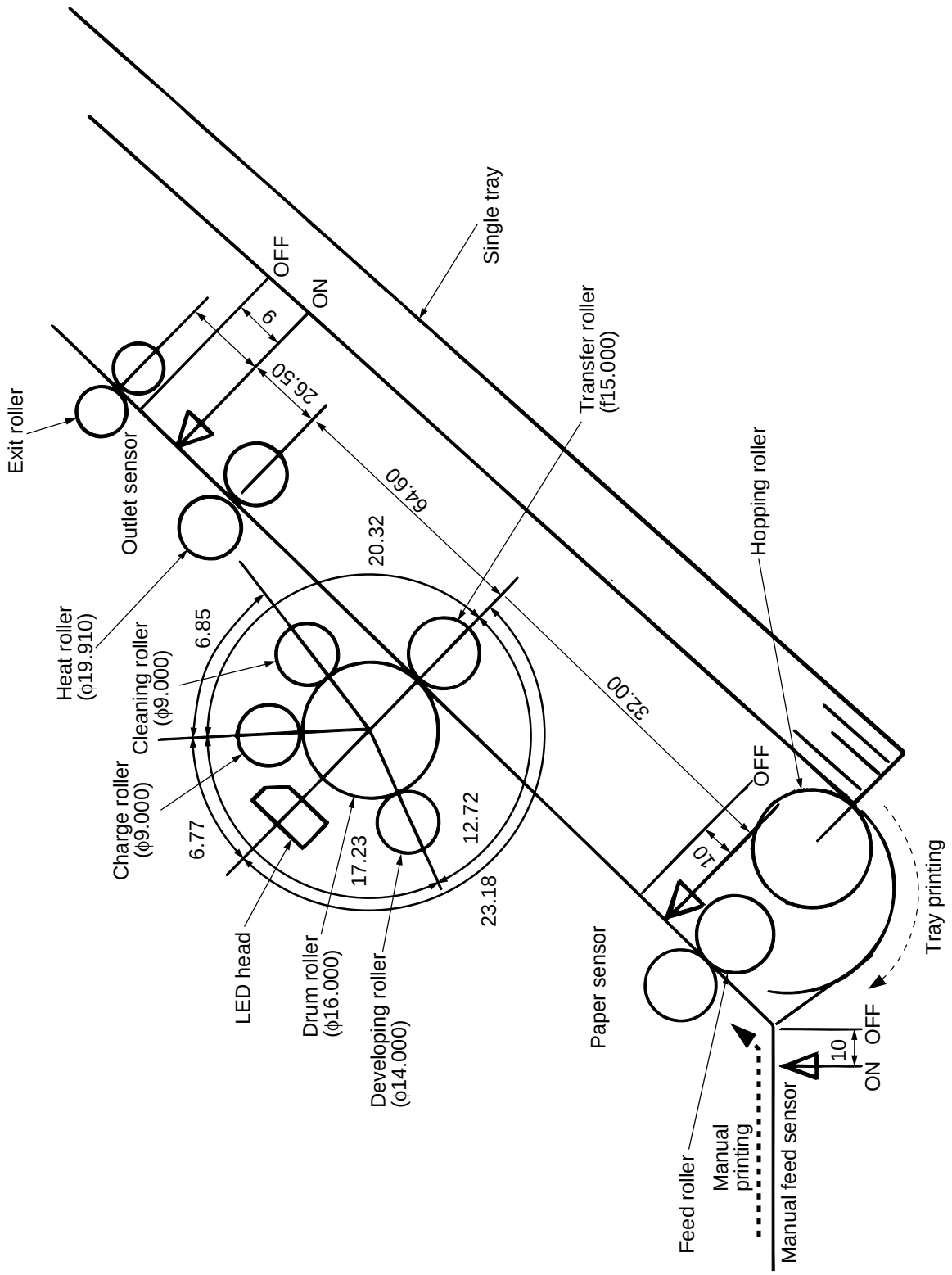


Figure B.1 Layout Drawing of Electro-Photographic Processor

2. Electro-Photographic Process

(1) Electro-photographic process

The electro-photographic process is outlined below.

① Charging

Main Motor	Electromagnetic Clutch	Hopping Roller	Regist Gear	Drum Gear	Operation
Normal rotation	OFF	Non-rotation	Non-rotation	Rotation	Warm-up
Reverse rotation	ON	Rotation	Rotation	Rotation	Hopping
	OFF	Non-rotation	Rotation	Rotation	Prinitng

The surface of the OPC drum is charged negatively and uniformly by applying the DC voltage to the CH roller.

② Exposure
Light emitted from the LED head irradiates the negatively charged surface of the OPC drum. The surface potential of the irradiated surface attenuates to form the electrostatic latent image corresponding to the image signal.

③ Development and residual toner recovery
The negatively charged toner is brought into contact with the OPC drum, adhering to the electrostatic latent image on the OPC drum by static electricity. This adhesion causes the electrostatic latent image to change to a visible image.

At the same time, the residual toner on the OPC drum is attracted to the developing roller by static electricity.

④ Transfer
When paper is placed over the image drum surface, the positive charge which is opposite in polarity to that of the toner, is applied to the reverse side by the transfer roller. The toner is attracted by the positive charge and is transferred onto the paper. This results in the transfer of the toner image formed on the image drum onto the paper.

⑤ Cleaning
The cleaning roller temporarily attracts the residual toner on the transferred OPC drum with static electricity, then returns the toner to the OPC drum.

⑥ Fusing
The transferred unfused toner image is fused to a sheet of paper by applying heat and pressure to the image.

Figure B.2 is a flow for the electro-photographic process.

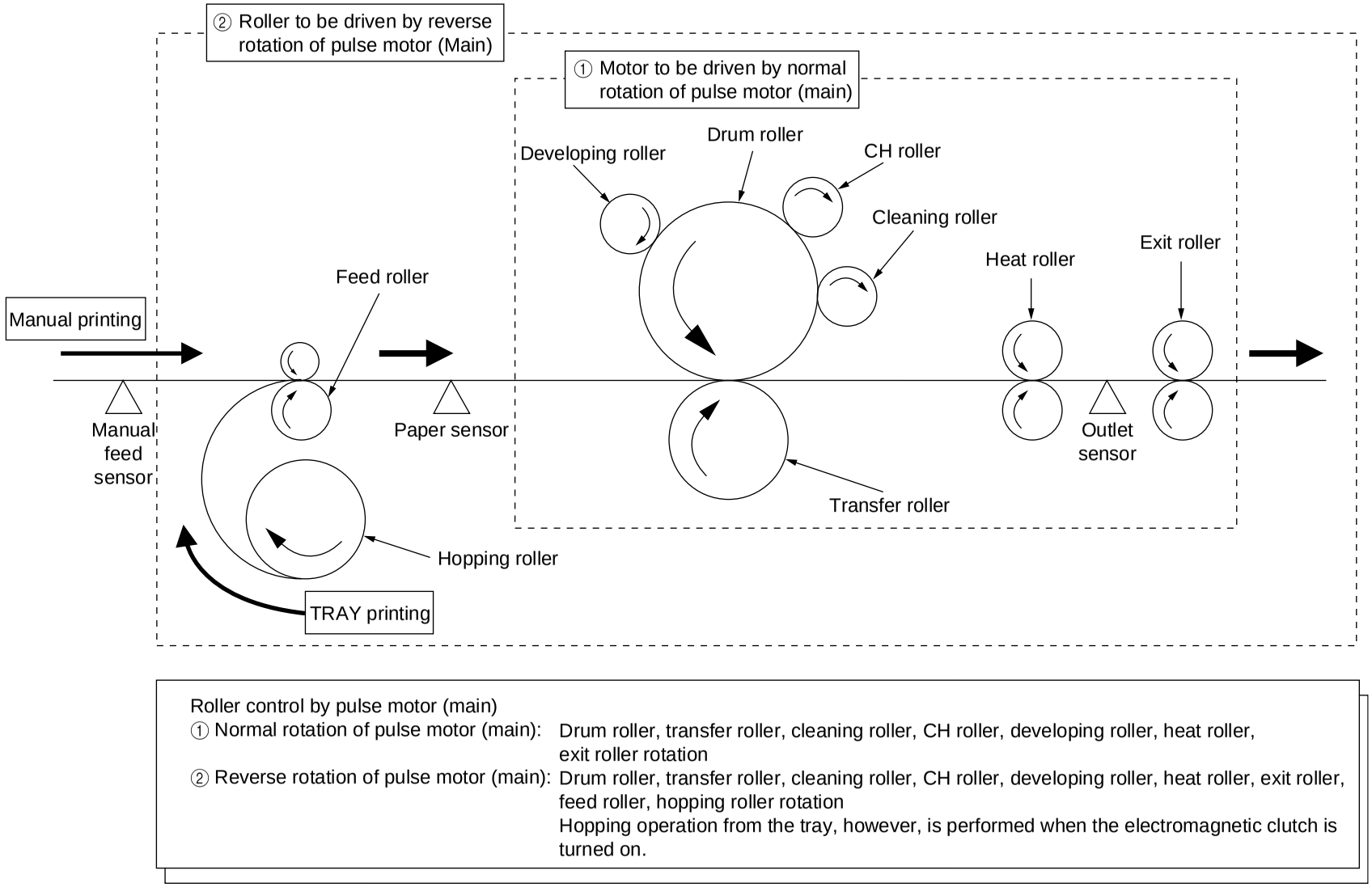

② Roller to be driven by reverse rotation of pulse motor (Main)
① Motor to be driven by normal rotation of pulse motor (main)
Developing roller
Drum roller
CH roller
Cleaning roller
Heat roller
Exit roller
Feed roller
Manual printing
Manual feed sensor
Paper sensor
Outlet sensor
Transfer roller
Hopping roller
TRAY printing
Roller control by pulse motor (main)
① Normal rotation of pulse motor (main): Drum roller, transfer roller, cleaning roller, CH roller, developing roller, heat roller, exit roller rotation
② Reverse rotation of pulse motor (main): Drum roller, transfer roller, cleaning roller, CH roller, developing roller, heat roller, exit roller, feed roller, hopping roller rotation
Hopping operation from the tray, however, is performed when the electromagnetic clutch is turned on.

Figure B.2 Schematic Drawing of OKIFAX 4550 Paper Feeding

Oki Data CONFIDENTIAL

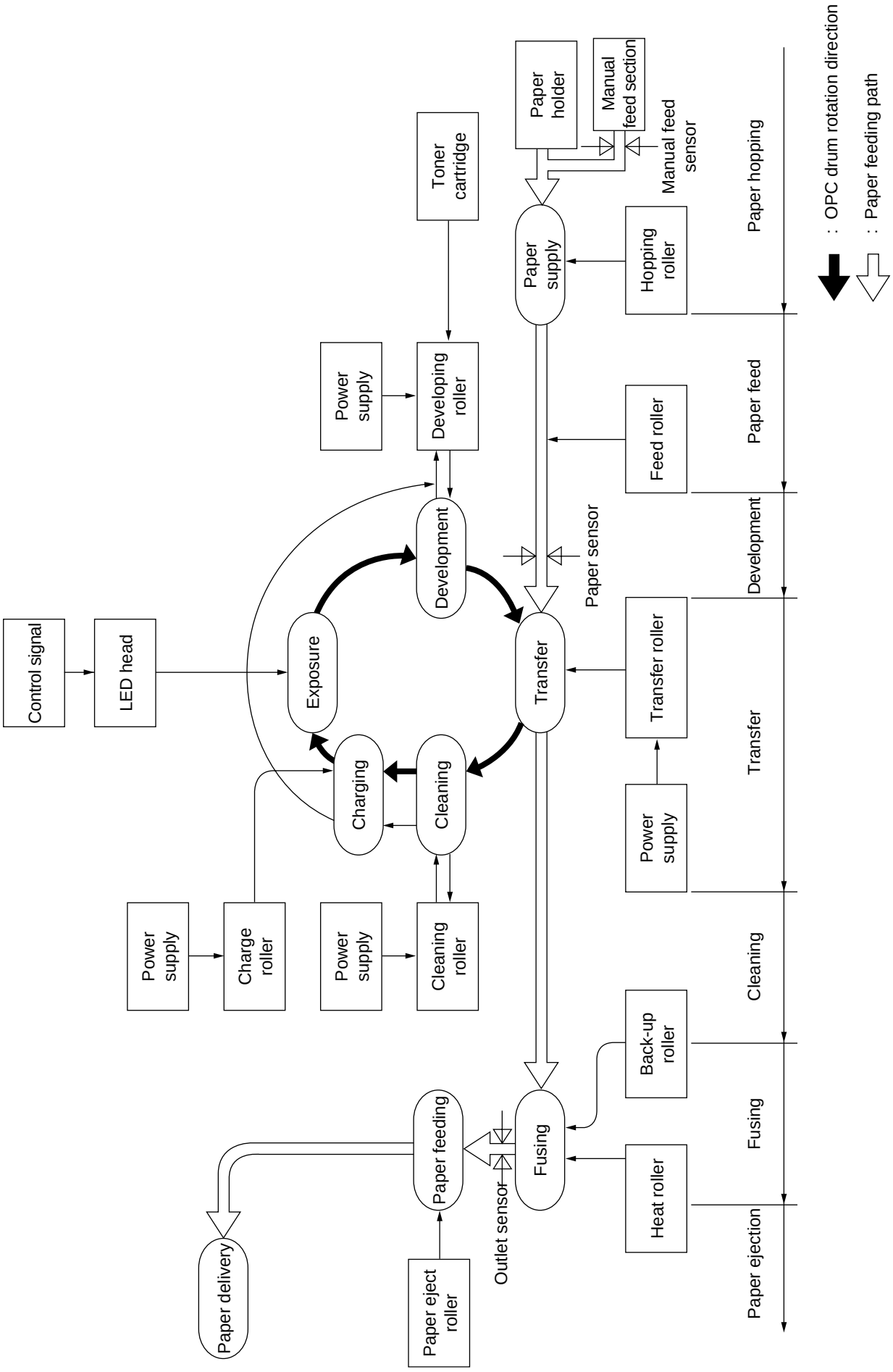


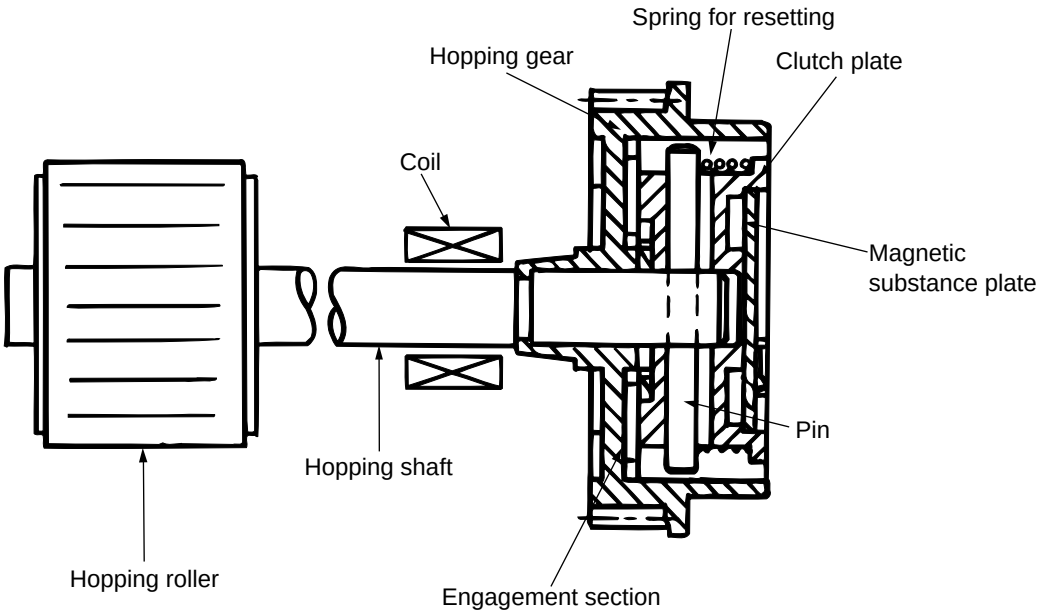
Figure B.3 Flow for Electro-Photographic Process

2.1 Explanation of Each Process Operation

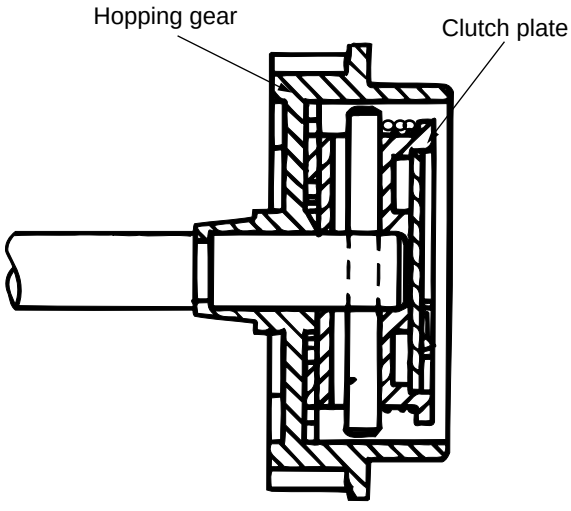
(1) Hopping

As shown in the figure below, the clutch for hopping is turned on/off according to current ON/ OFF to a coil.

When the clutch is OFF



When the clutch is ON

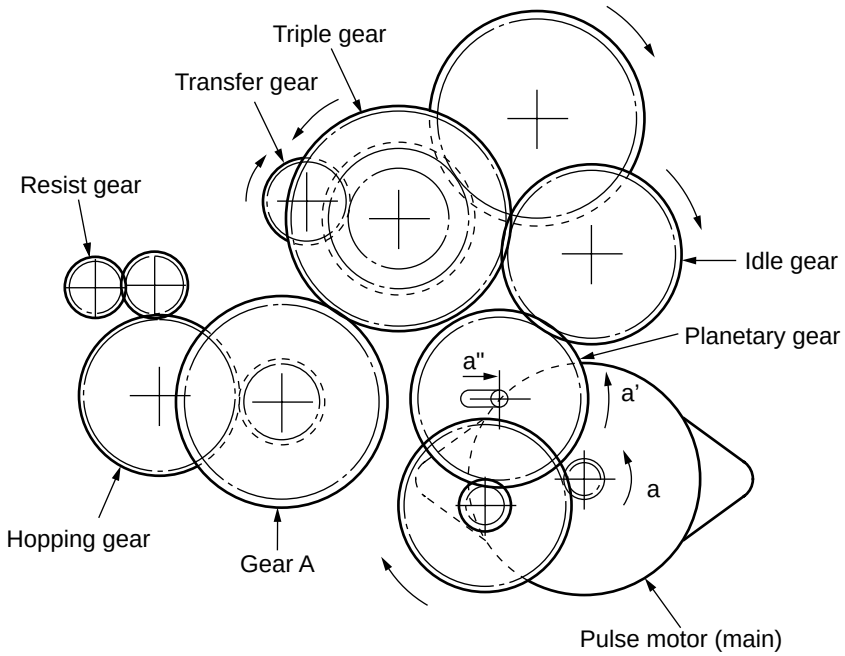


When the clutch is on, the hopping gear engages with the clutch plate to rotate the hopping roller.

When the clutch is off, the hopping gear is separated from the clutch plate by the spring for resetting, disabling the rotation of the hopping roller.

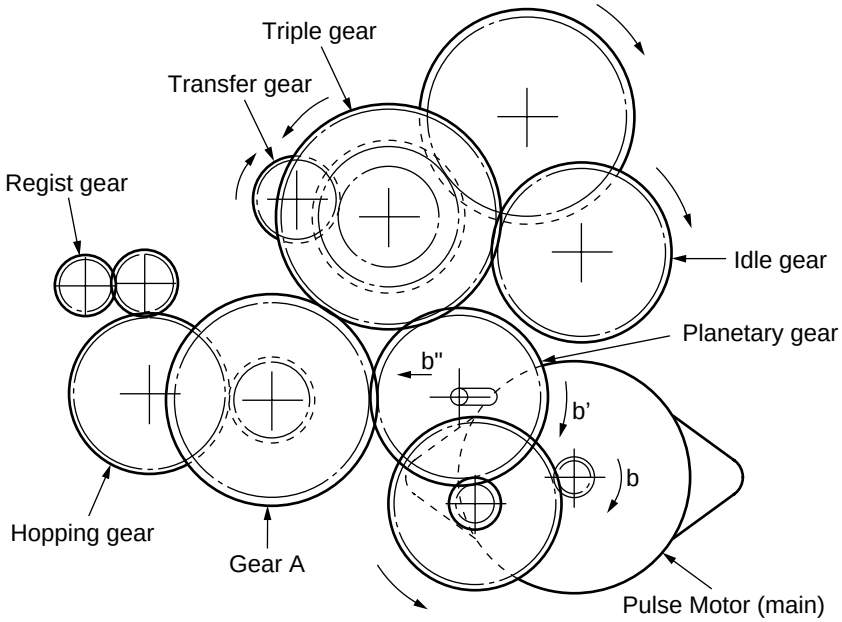
(2) Printing and warm-up

At warm-up



Rotate the pulse motor (main) in the a direction. The planetary gear rotates in the a' direction, dislocating its position in the a" direction. This causes the planetary gear to be separated from gear A. The hopping gear will not rotate. The triple gear and transfer gear rotate via the idle gear to drive the EP unit.

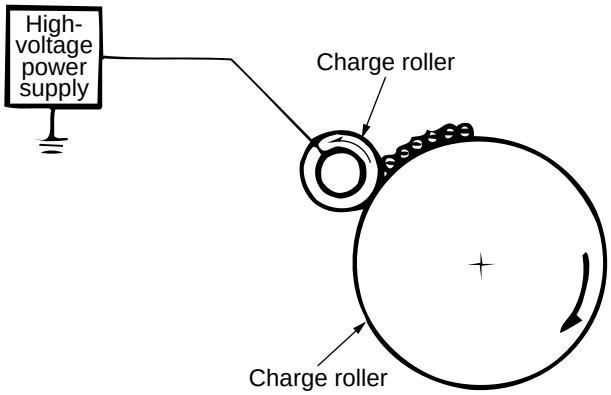
At printing



The paper is further advanced in synchronization to the print data.

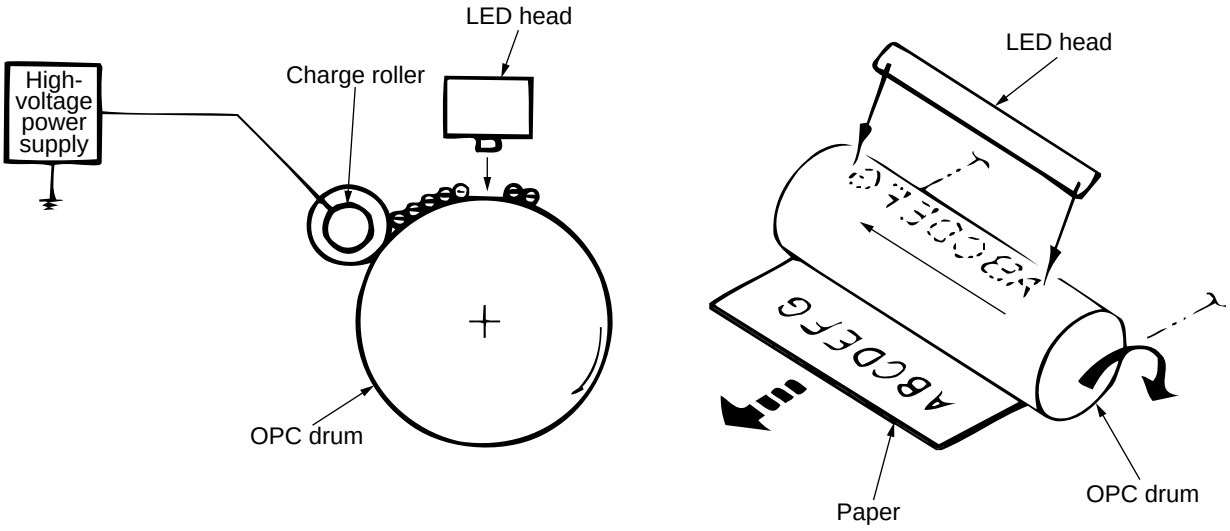
(3) Charging

Charging is performed by applying DC voltage to the charge roller that is in contact with the surface of the OPC drum.



(4) Exposure

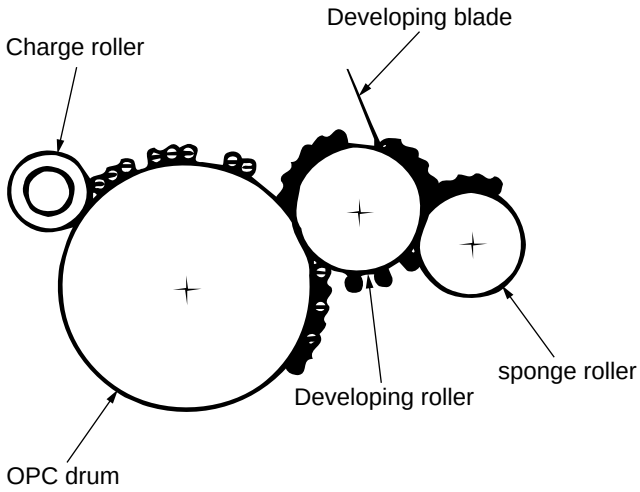
Light emitted from the LED head irradiates the negatively charged surface of the OPC drum. The surface potential of the irradiated surface attenuates to form the electrostatic latent image corresponding to the image signal.



(5) Development

The electrostatic latent image on the surface of the OPC drum is changed to a visible toner image by applying a toner to it. Development is performed in the contact part between the OPC drum and developing roller.

① The sponge roller negatively charges a toner and applies it to the developing roller.



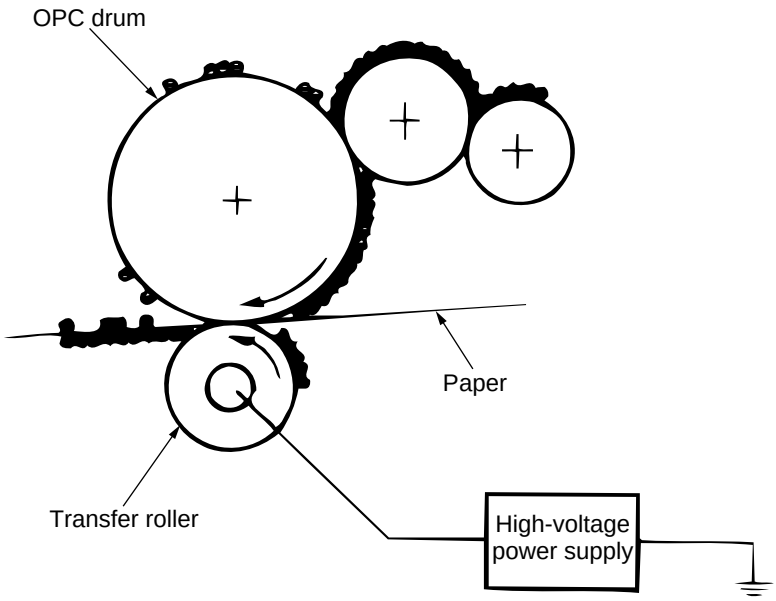
② The toner applied to the developing roller is thin-coated by the developing blade.

③ A toner adheres to the exposure part of the OPC drum in the contact part between the OPC drum and developing roller. This causes the electrostatic latent image to be changed to a visible image.

(6) Transfer

The transfer roller is composed of conductive sponge material. This roller is set so that the surface of the OPC drum and sheets of paper will adhere closely.

A sheet of paper is placed on the surface of the OPC drum and the positive charge opposite to the negative charge of a toner is applied from the reverse side by the transfer roller.



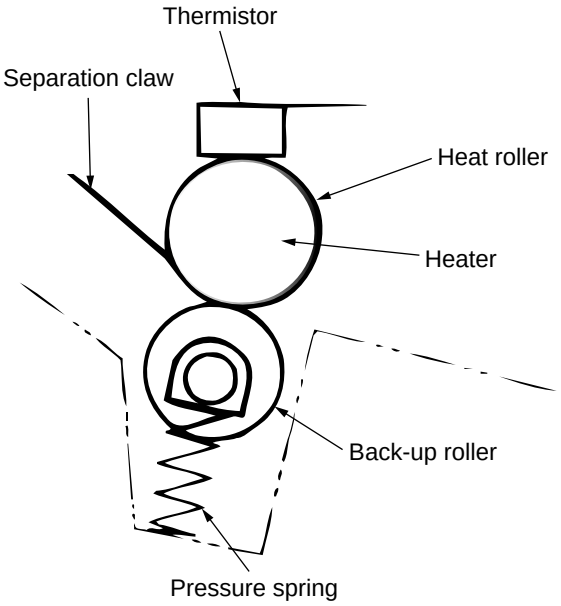
When a high positive voltage is applied from the power supply to the transfer roller, the positive charge induced on the surface of the transfer roller moves to the paper side at the contact part between the transfer roller and the sheet of paper. The positive charge on the lower side of the sheet of paper then causes the negatively charged toner adhering to the surface of the OPC drum to move to the upper side of the sheet. This enables transfer to the sheet of paper.

(7) Fusing

The transferred unfused toner image is fused to a sheet of paper because heat and pressure are applied when it passes between the heat roller and back-up roller.

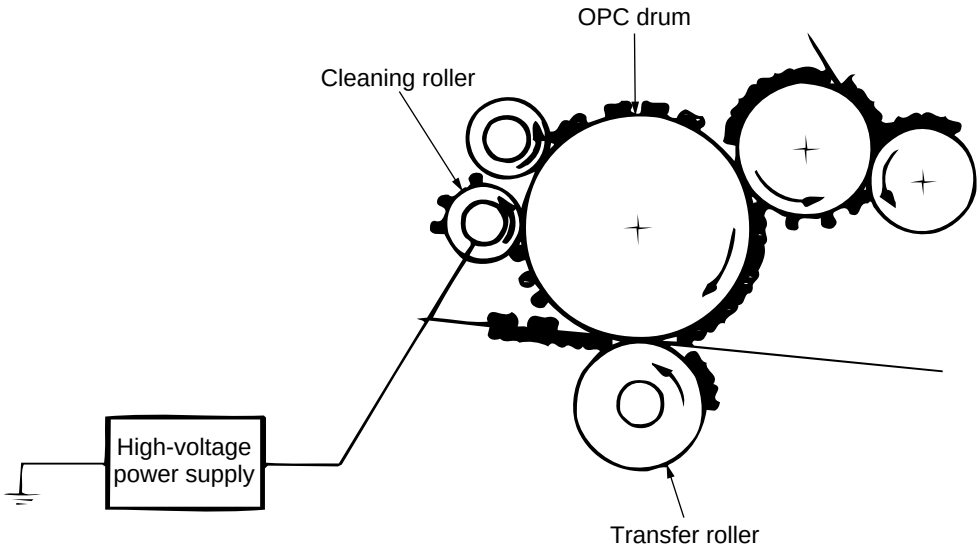
The Teflon-coated heat roller contains a 400 W heater (Halogen lamp) that heats the heat roller. The thermistor on the surface of the heat roller keeps the temperature of the heat roller constant. A thermostat is also installed for safety. If temperature rises abnormally, this thermostat opens to suspend voltage supply to the heater.

The back-up roller is pressurized to the heat roller by the pressure spring on each side.



(8) Cleaning

After transfer has terminated, the cleaning roller temporarily draws in the untransferred residual toner adhering to the OPC drum with static electricity and then returns it to the OPC drum.



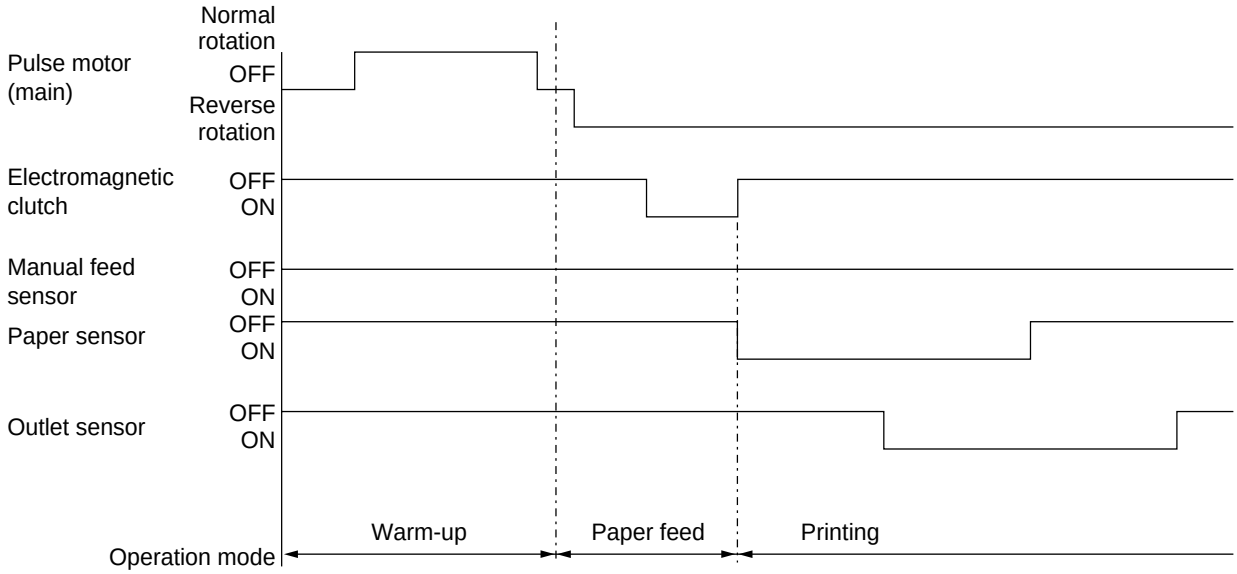
3. Paper Jam Detection

The FX-046VP monitors the paper status when the power supply is on and during printing. In the following cases, the FX-046VP ISDN interrupts the printing process as a paper jam. Printing can be recovered by opening the cover, removing the jammed paper, and closing the cover.

Error	Cause of Error
Paper inlet jam	• Only the manual feed sensor detects "Paper exists" when the power supply is on. • The leading part of the paper does not reach the paper sensor although hopping operation was performed three time.
Paper feed jam	• The leading part of the paper does not reach the outlet sensor within a fixed time after it has passed the paper sensor.
Paper outlet jam	• The trailing part of the paper does not pass the outlet sensor within L mm after the leading part of the paper has passed the outlet sensor. 2.52" (64 mm) ≦ L ≦ 15.77" (400.6 mm)
Paper size error	• The trailing part of the paper does not pass the paper sensor within L mm after the leading part of the paper has passed the paper sensor. 2.52" (64 mm) ≦ L ≦ 15.77" (400.6 mm)

Type of Error	Supervisory Sensor	Reference Value	Error	
			Pluse	Minus
Paper feed error	Electromagnetic clutch ON/ Paper sensor ON	69.8	35	
Paper feed jam1	Paper sensor ON/ Outlet sensor ON	122.9	20.0	
Paper size error	Paper sensor ON/ Paper sensor OFF	2.52" (64 mm) ≦L≦ 15.77" (400.56 mm)		
Paper outlet jam	Outlet sensor ON/ Outlet sensor OFF	2.52" (64 mm) ≦L≦ 15.77" (400.56 mm)	45.0	45.0
Paper feed jam 2	Paper end sensor OFF/ Outlet sensor OFF	121.9	20.0	20.0

Unit: mm

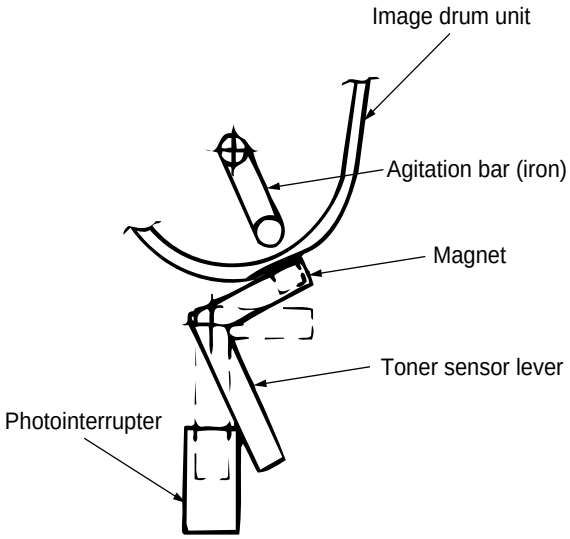


Timing Chart for Paper Feed (Tray Feed)

4. Toner Low Detection

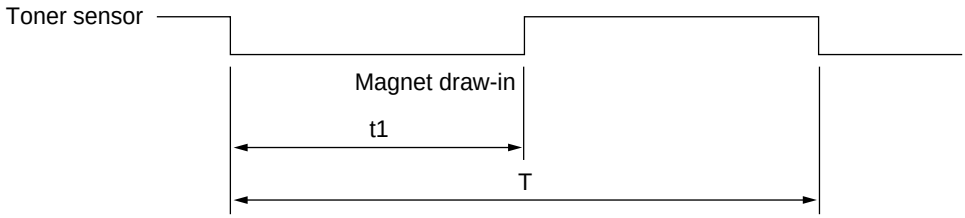
• Hardware configuration of toner sensor

The figure below shows the hardware configuration of the toner sensor.



Hardware Configuration of Toner Sensor

• Toner detection method



(1) Toner sensor monitoring conditions are shown in the figure below.

Caution: The toner sensor is not monitored when the drum is inactive.

(a) When the toner-low state continues twice, Toner Low occurs. (This state is monitored at a cycle of 40 milliseconds.)

(b) When the toner-full state continues twice, Toner Low is released. (This state is monitored at a cycle of 40 milliseconds.)

(c) When the toner sensor does not change over two cycles (T × 2), the toner sensor alarm state occurs.

(d) After the EP unit has been replaced (after the drum counter has been reset), Toner Low is not detected when the drum counter indicates 1 to 100 counts.

(2) The basic rotation cycle of the toner sensor is as follows:

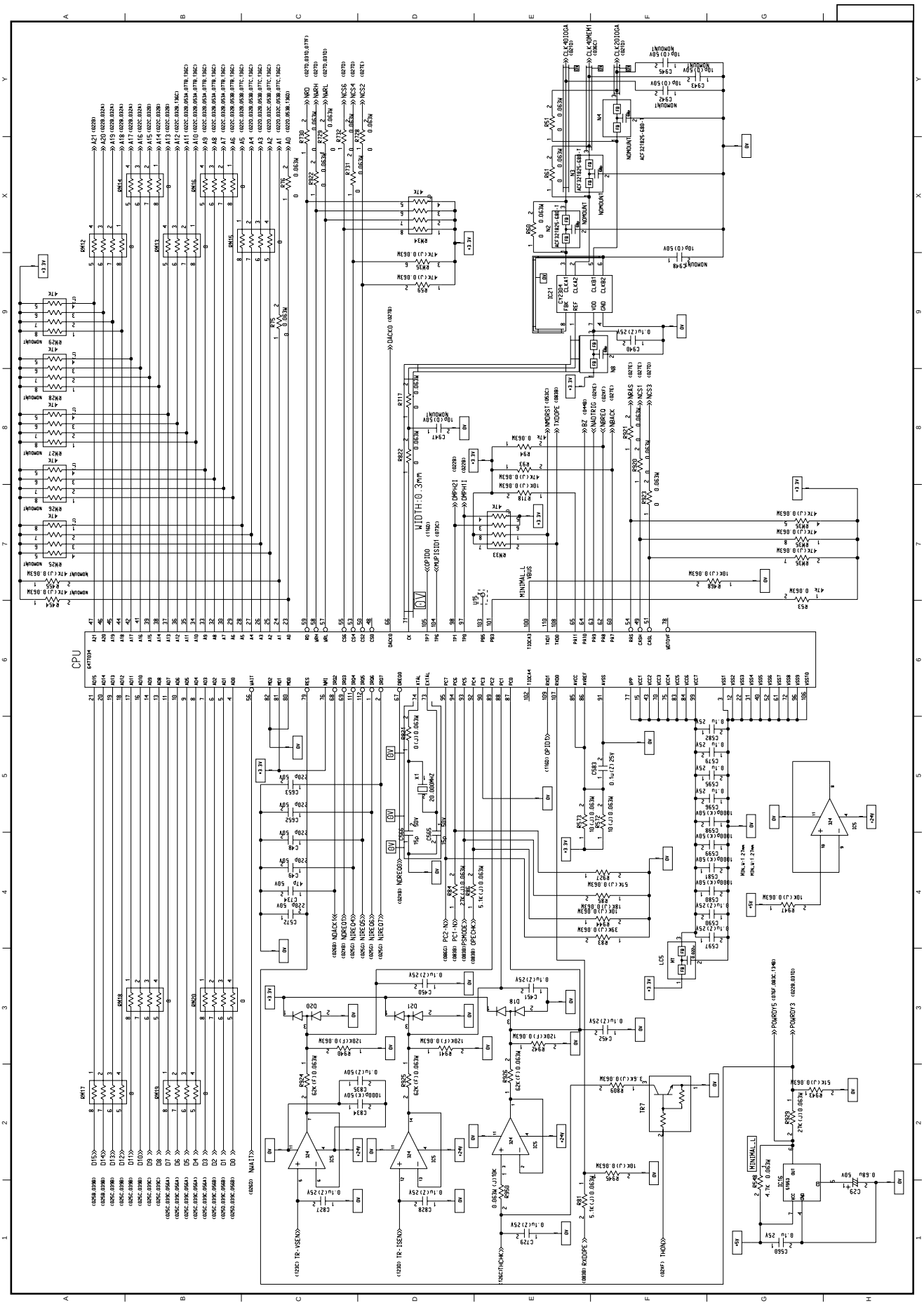
	T time
Basic rotation cycle of toner sensor	4.9 sec.
Toner low time	t1 > 1.2 sec.
Toner full time	1.2 sec. > t1 >

5. Cover Open

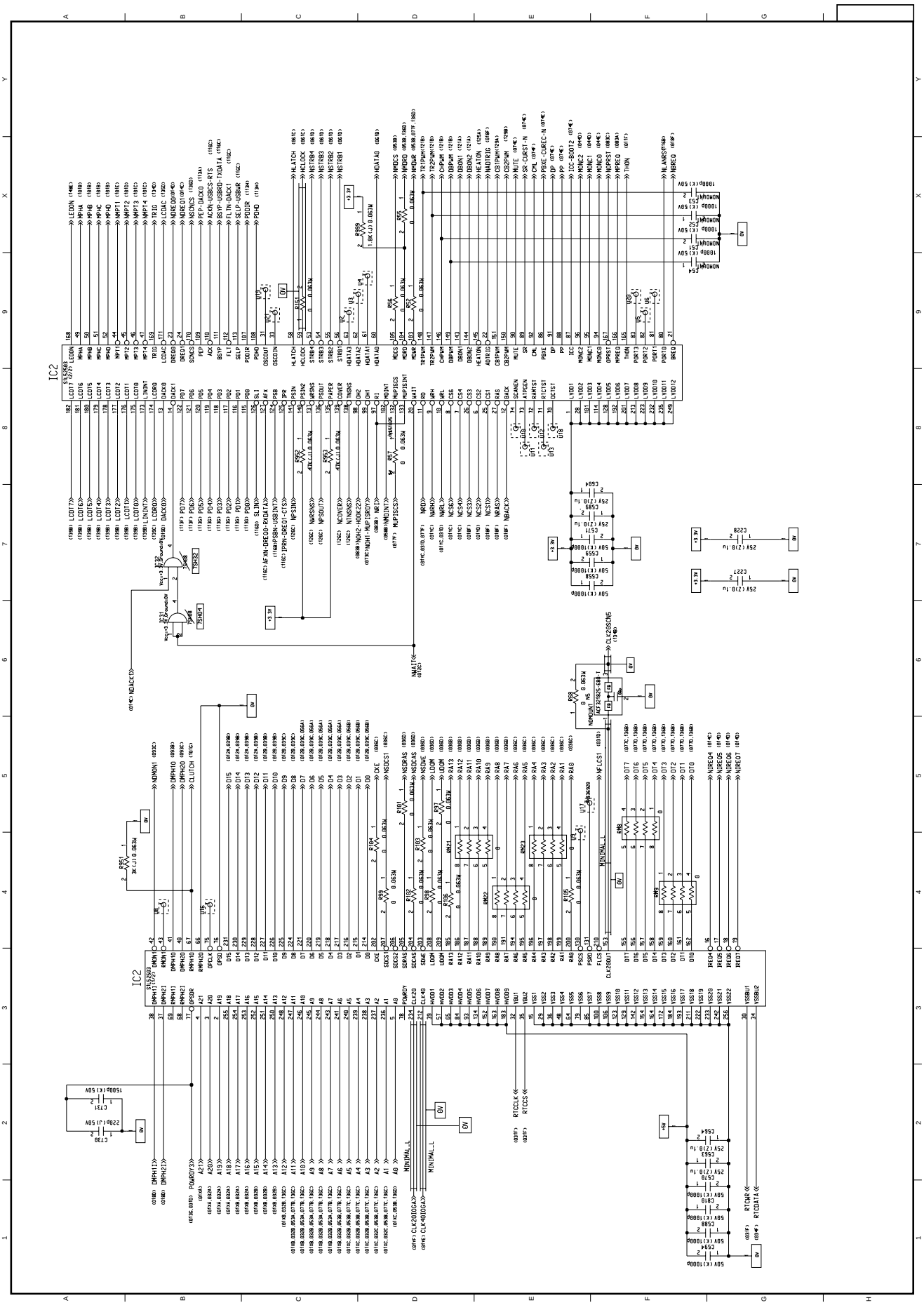
Opening the stacker cover turns off the microswitch on the high-voltage power supply board to suspend +5 V supply to the high voltage power supply. This results in the stop of all high-voltage outputs. At the same time, the CVOPN signal is issued to notify the main control board of the switch status and cover open processing is executed.

APPENDIX C CIRCUIT DIAGRAMS

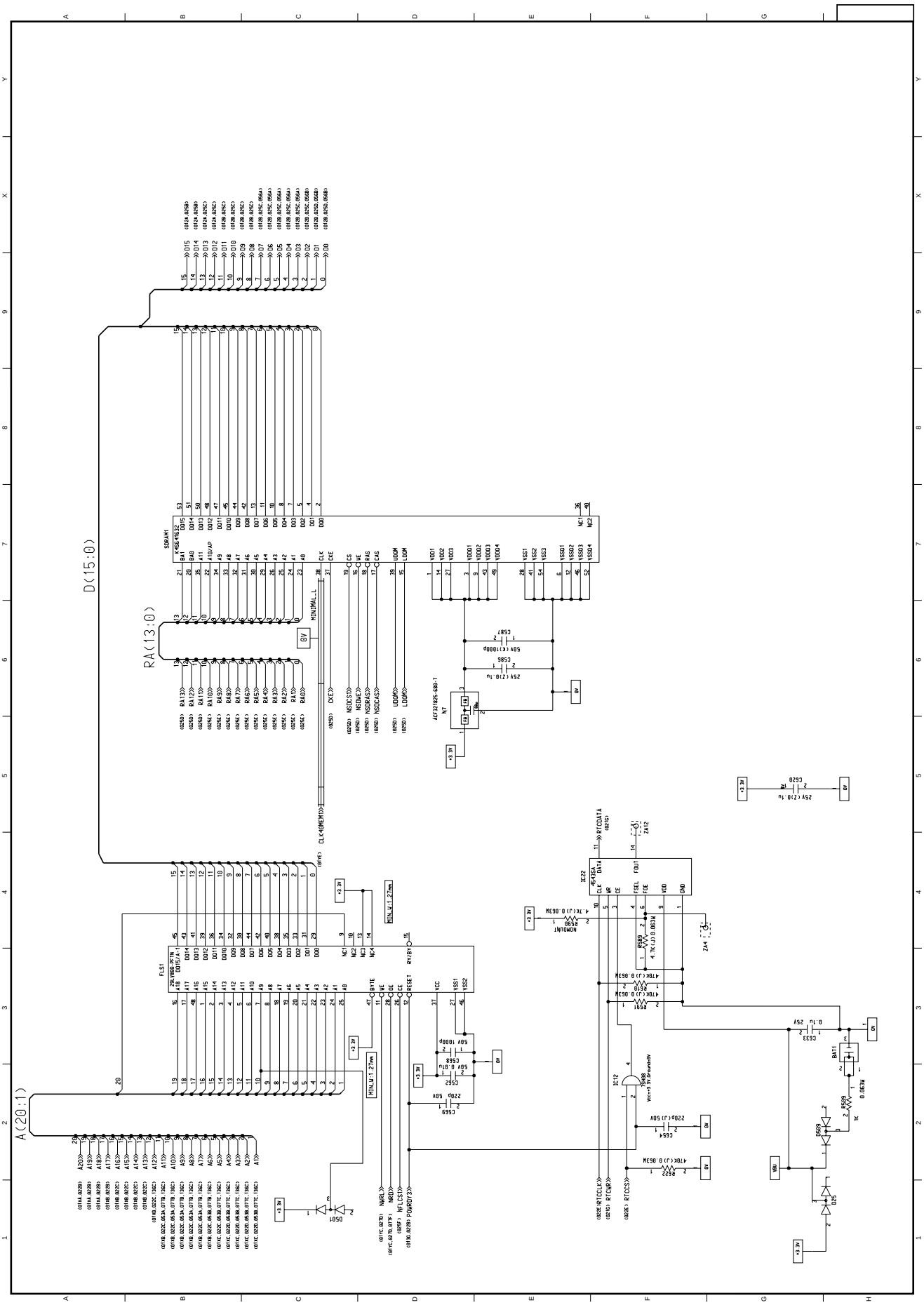
V46-PCB Circuit Diagram (1/14~14/14)	(41999301SS)
04W-PCB Circuit Diagram (1/2~2/2)	(40071401SS)
04S-PCB Circuit Diagram (1/2~2/2)	(42306001SS)
EN9-PCB Circuit Diagram (1/2~2/2)	(41144301SS)
EN2-PCB Circuit Diagram (1/2~2/2)	(42310801SS)
INU-PCB Circuit Diagram (1/1)	(41144501SS)
MPW1546 POW(120VAC) Circuit Diagram (1/1)	(S1PS1303)
MPW1446 POW(230VAC) Circuit Diagram (1/1)	(S1PS1302)
P2H-PCB Circuit Diagram (1/1)	(40599101SS)
P6L-PCB Circuit Diagram (1/1)	(40386701SS)
G4N-PCB Circuit Diagram (1/7~7/7)	(41033701SS)



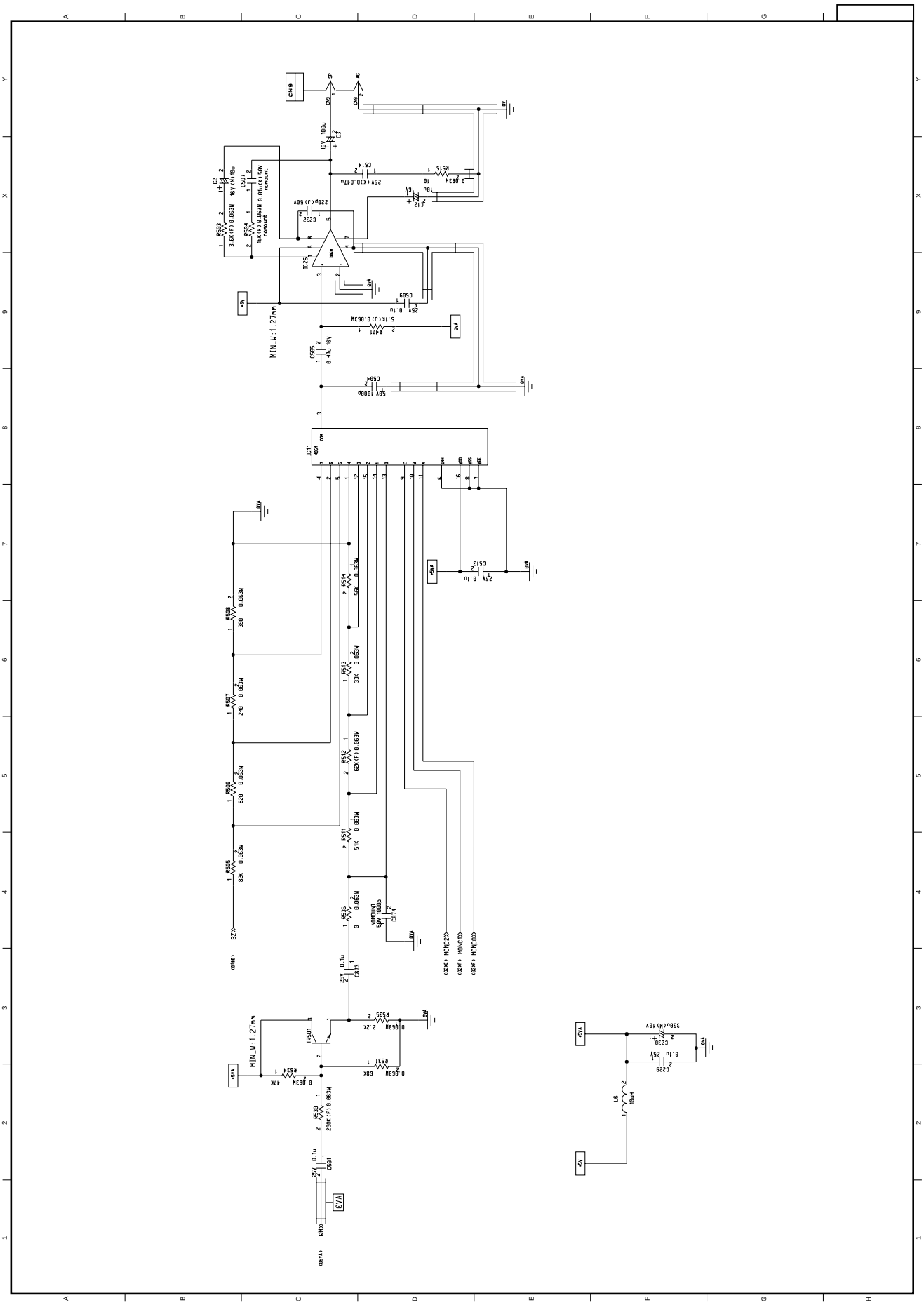
V46-PCB Circuit Diagram (1/14)
(41999301SS)



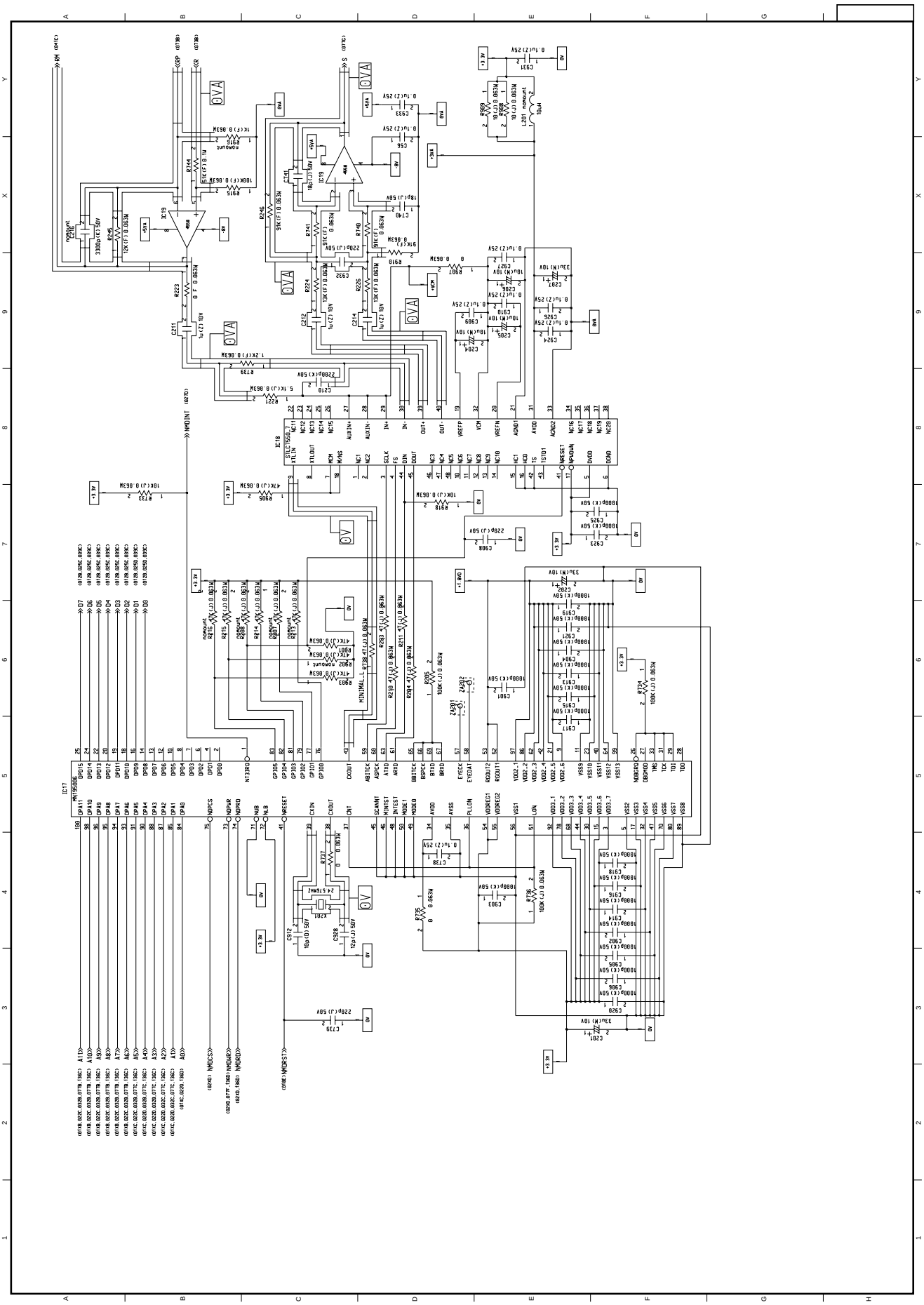
V46-PCB Circuit Diagram (2/14)
(41999301SS)



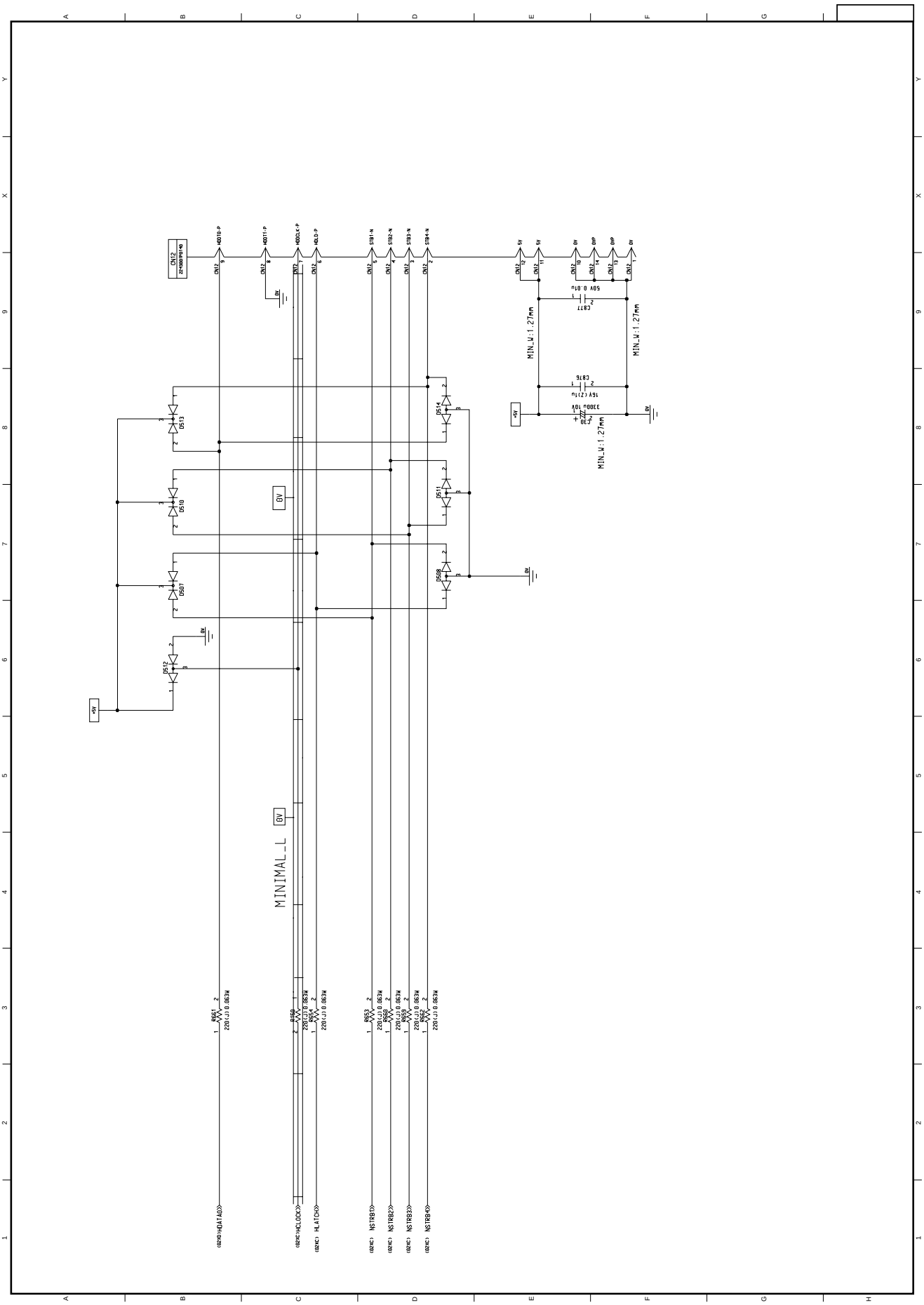
V46-PCB Circuit Diagram (3/14)
(41999301SS)



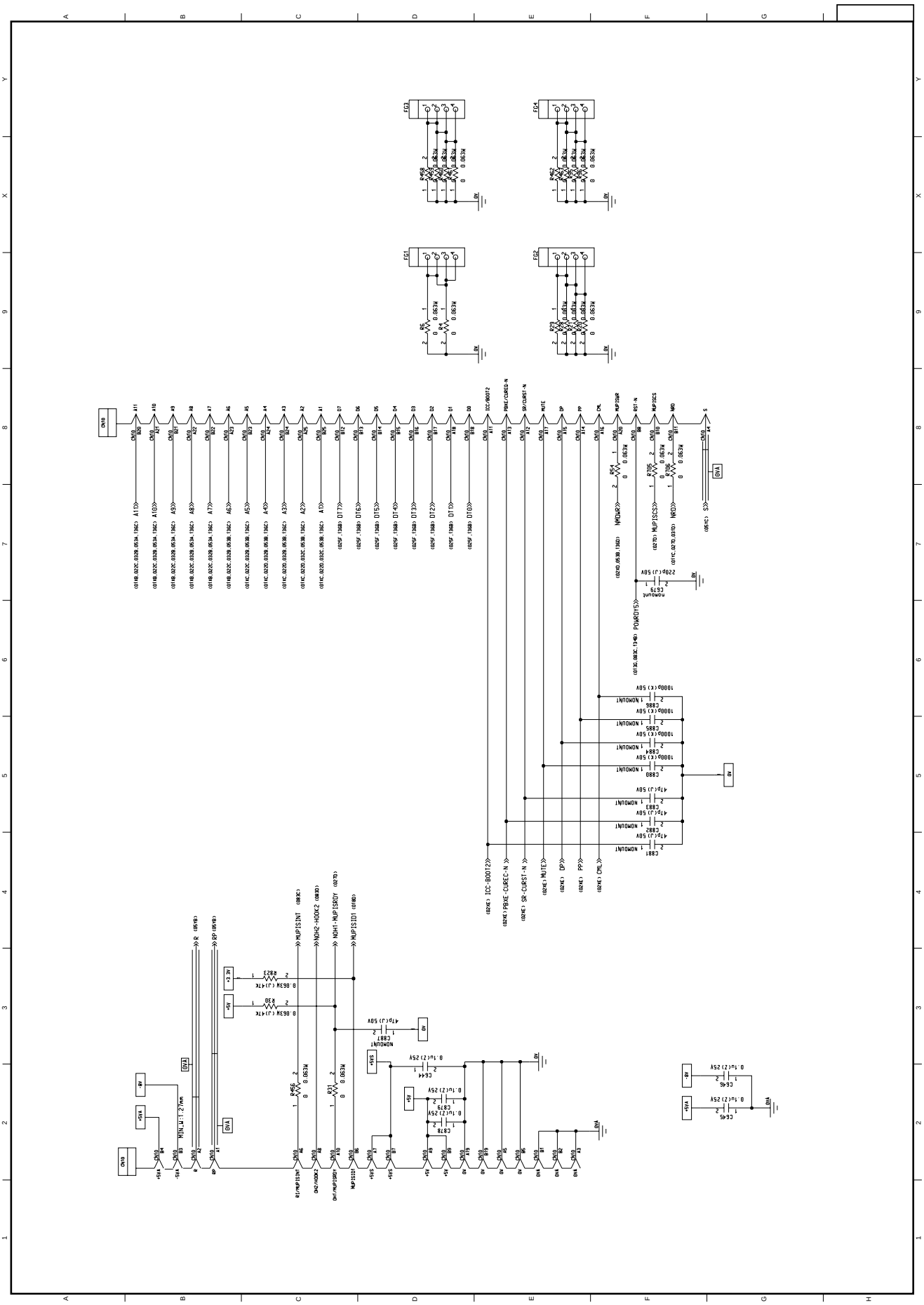
V46-PCB Circuit Diagram (4/14)
(41999301SS)



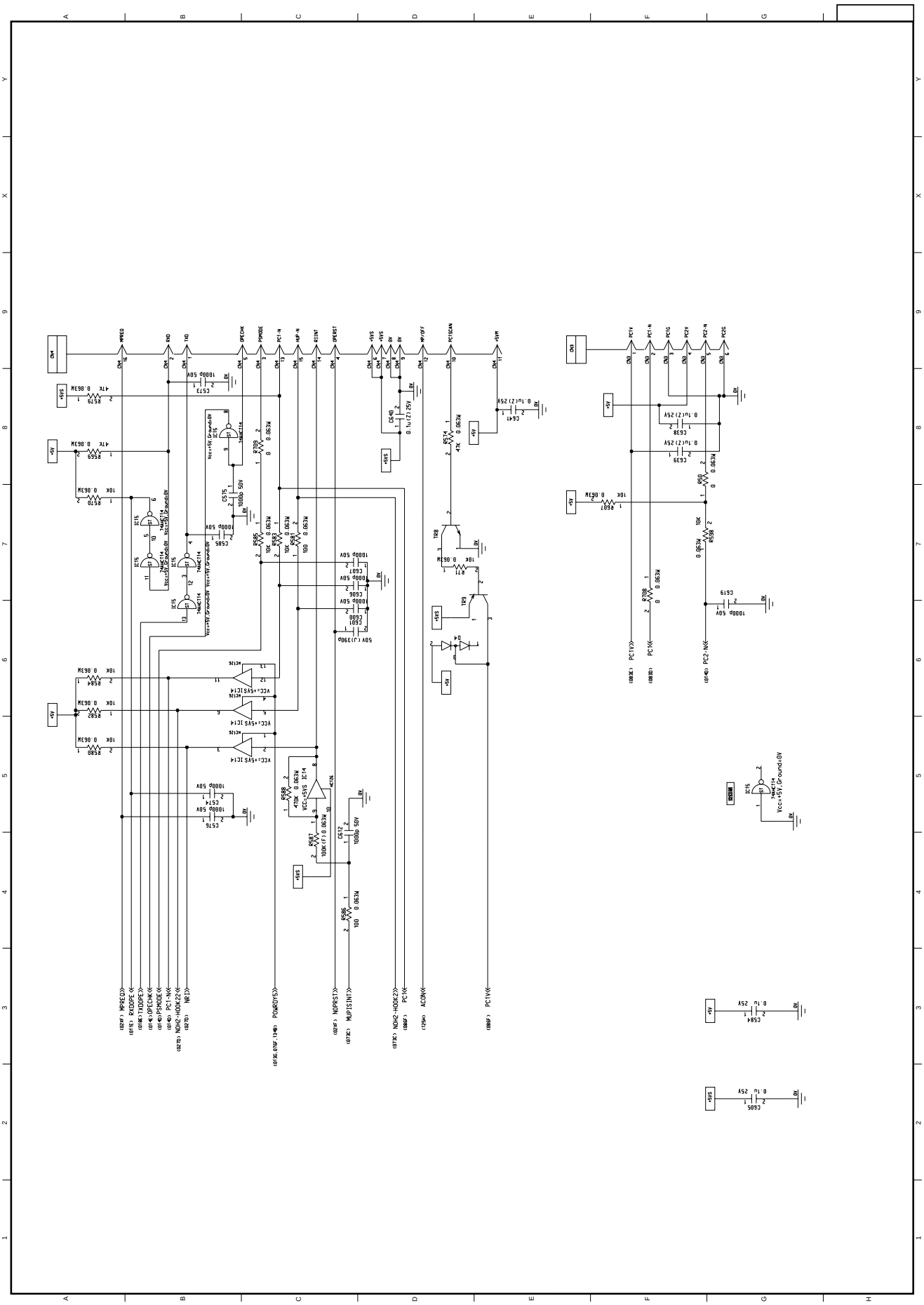
V46-PCB Circuit Diagram (5/14)
(41999301SS)



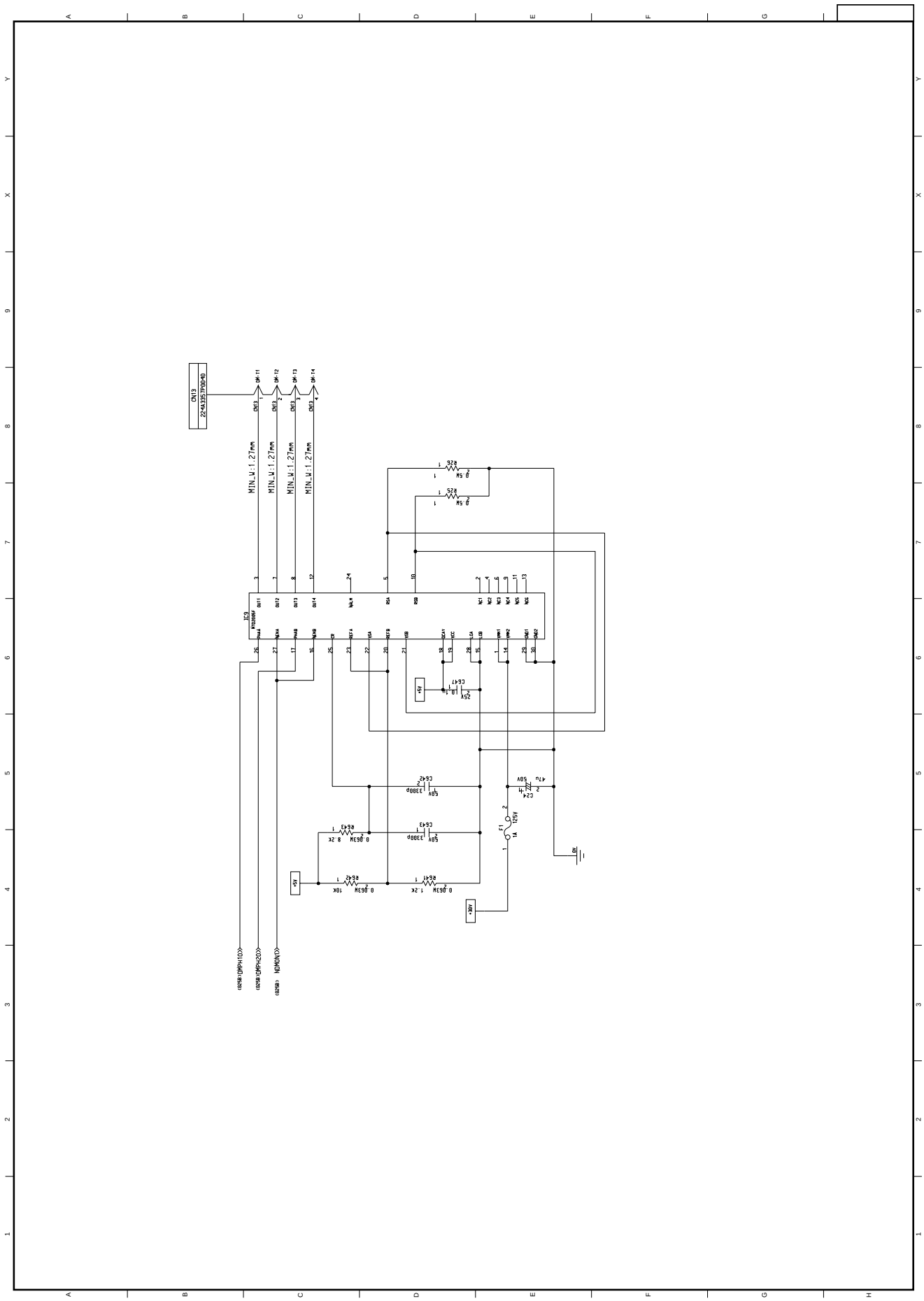
V46-PCB Circuit Diagram (6/14)
(41999301SS)



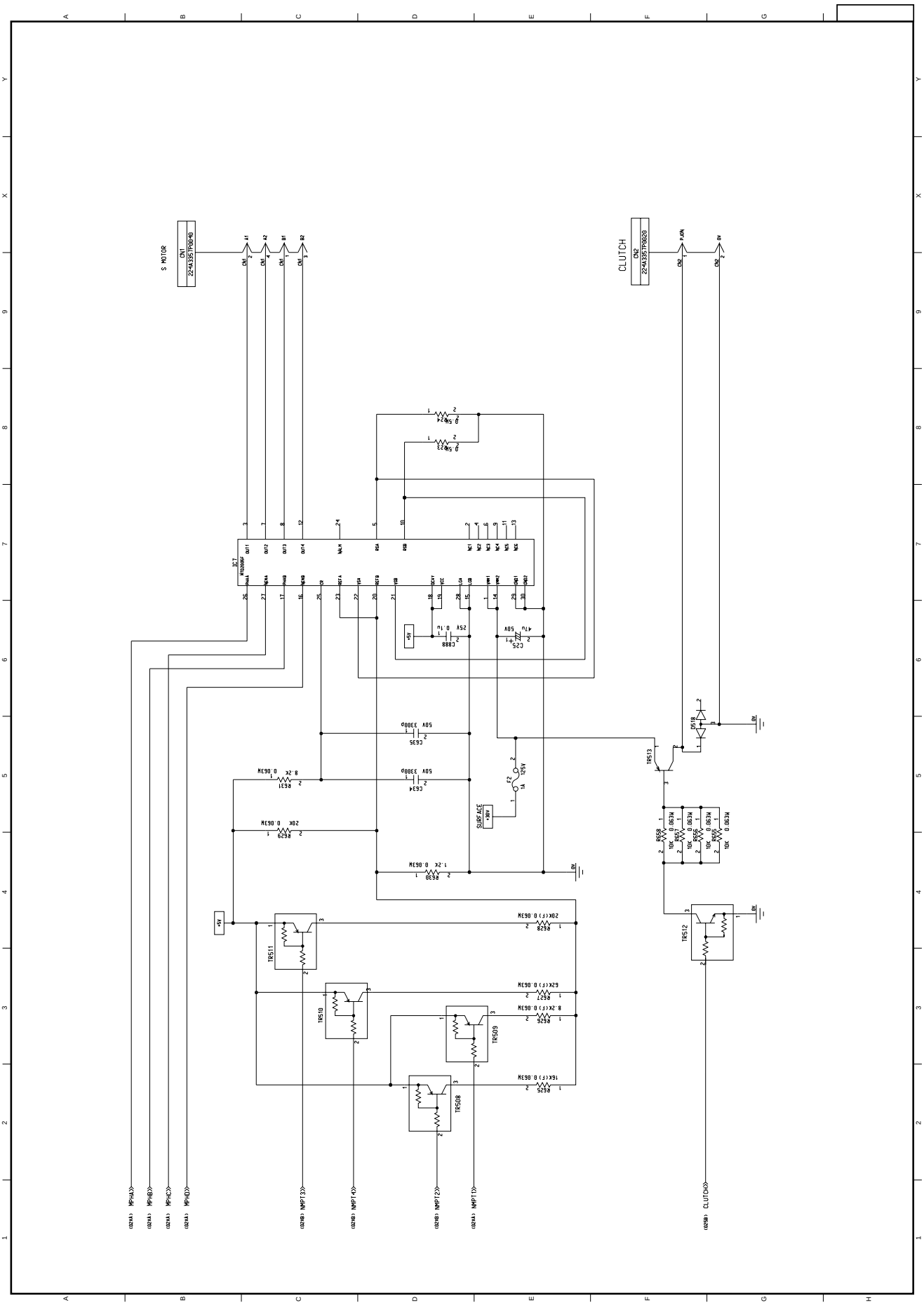
V46-PCB Circuit Diagram (7/14)
(41999301SS)



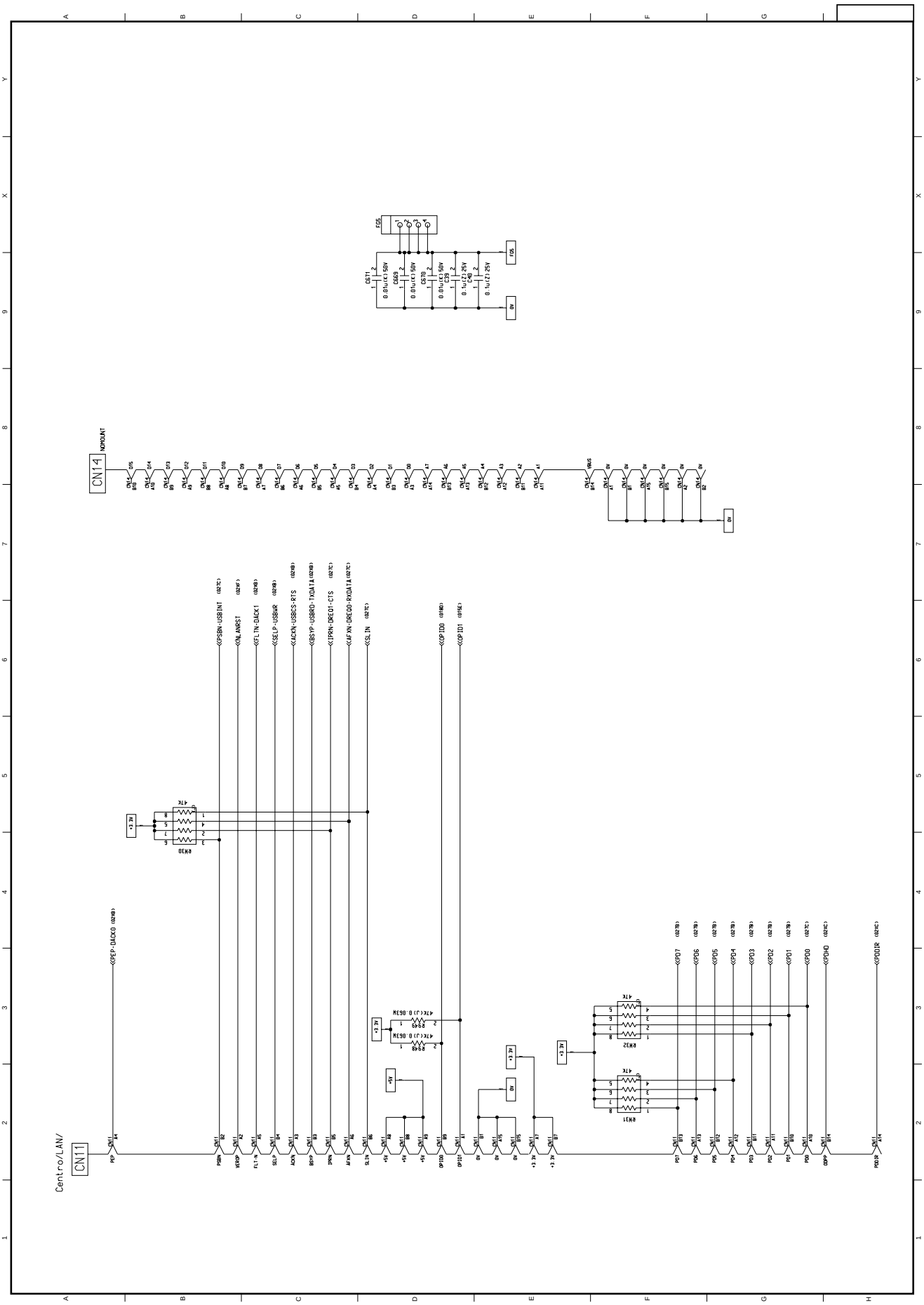
V46-PCB Circuit Diagram (8/14)
(41999301SS)



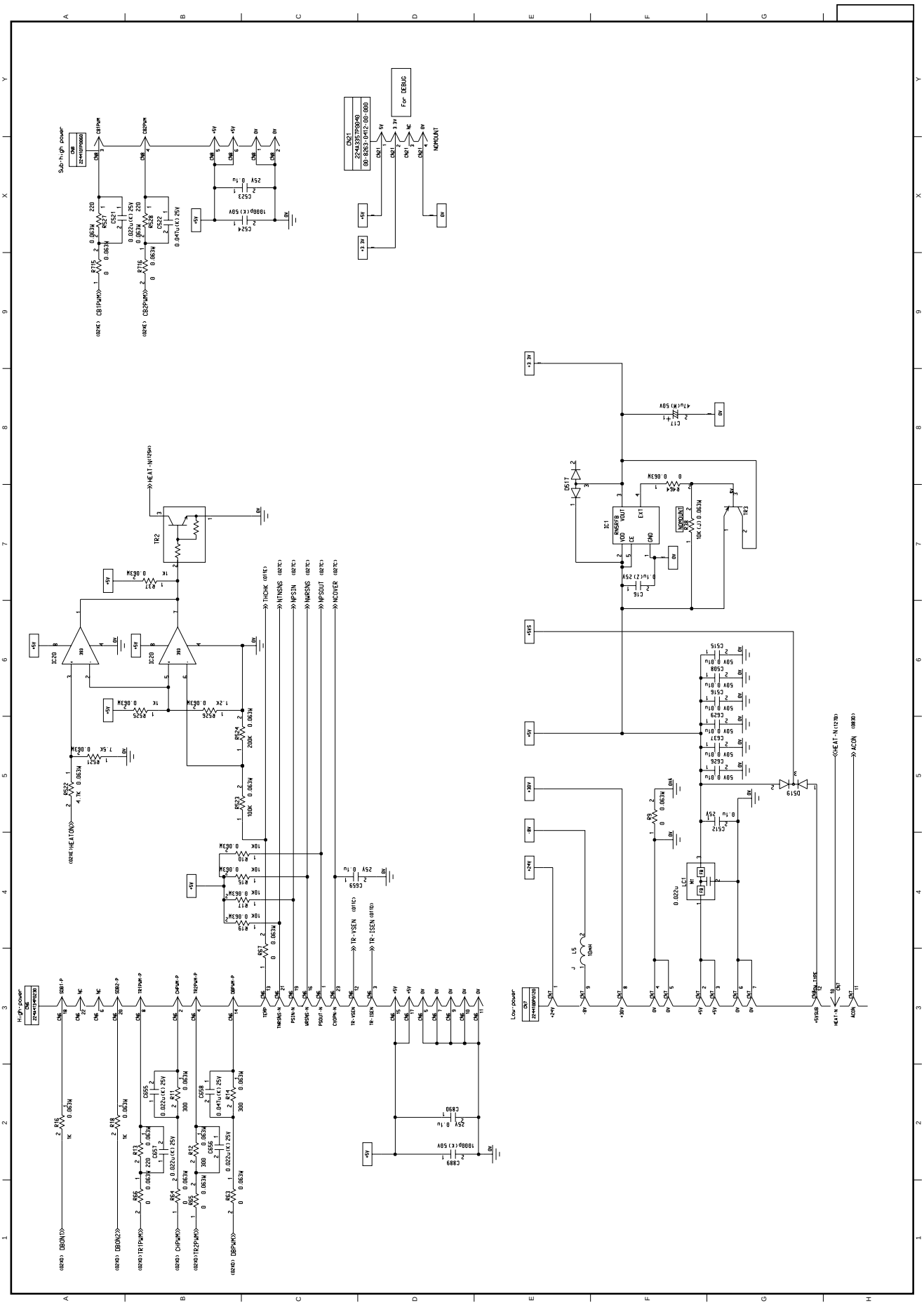
V46-PCB Circuit Diagram (9/14)
(41999301SS)



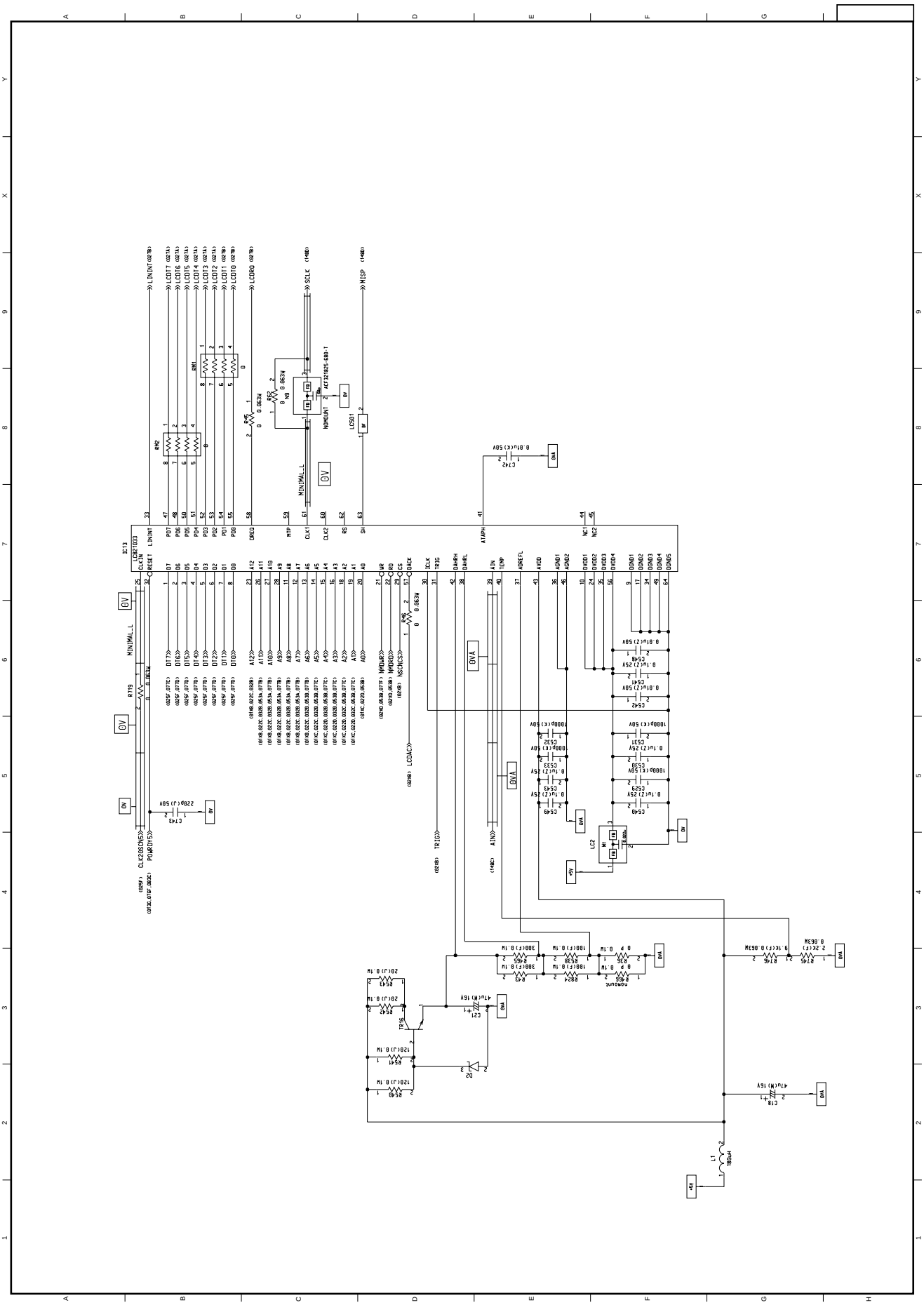
V46-PCB Circuit Diagram (10/14)
(41999301SS)



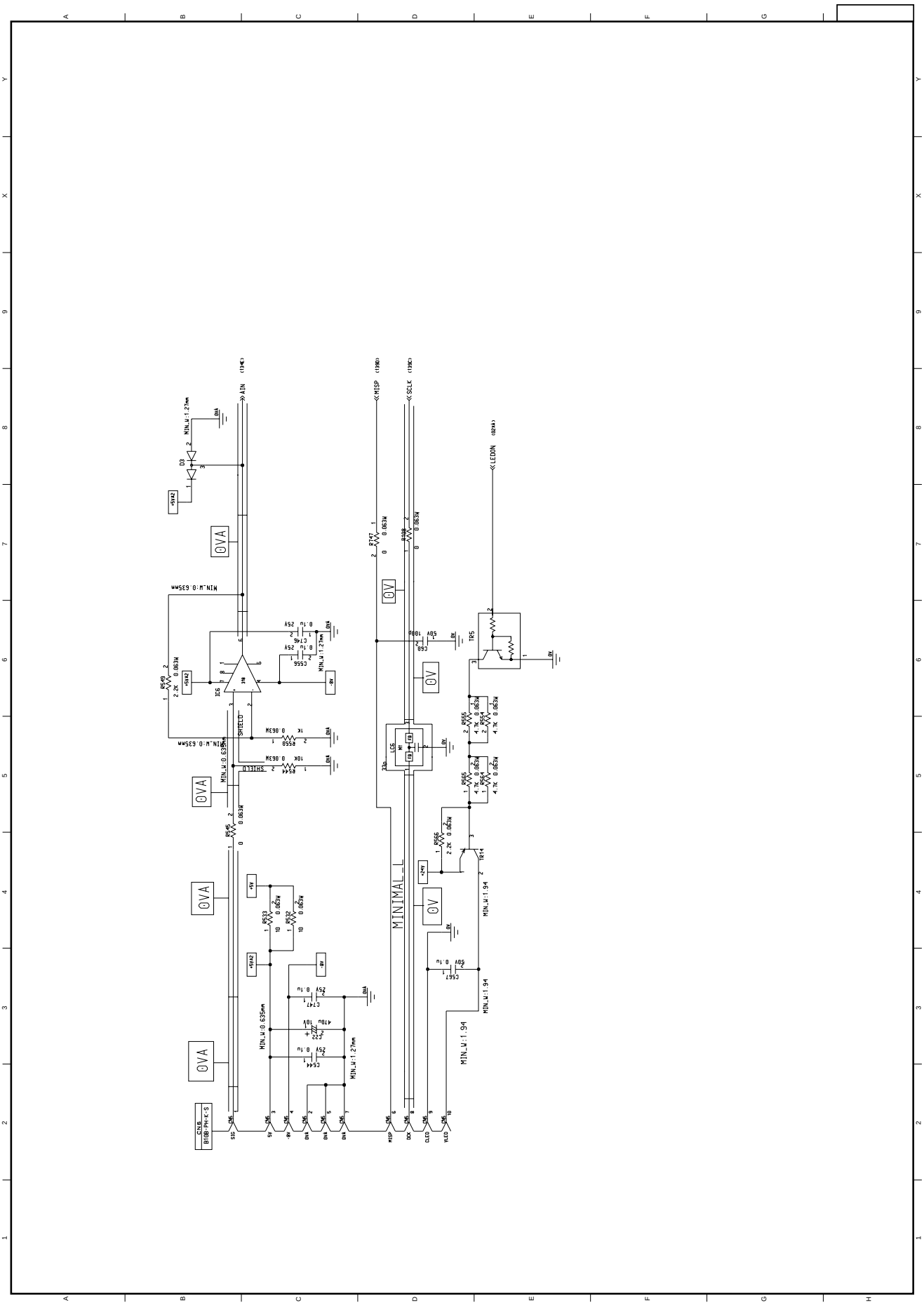
V46-PCB Circuit Diagram (11/14)
(41999301SS)



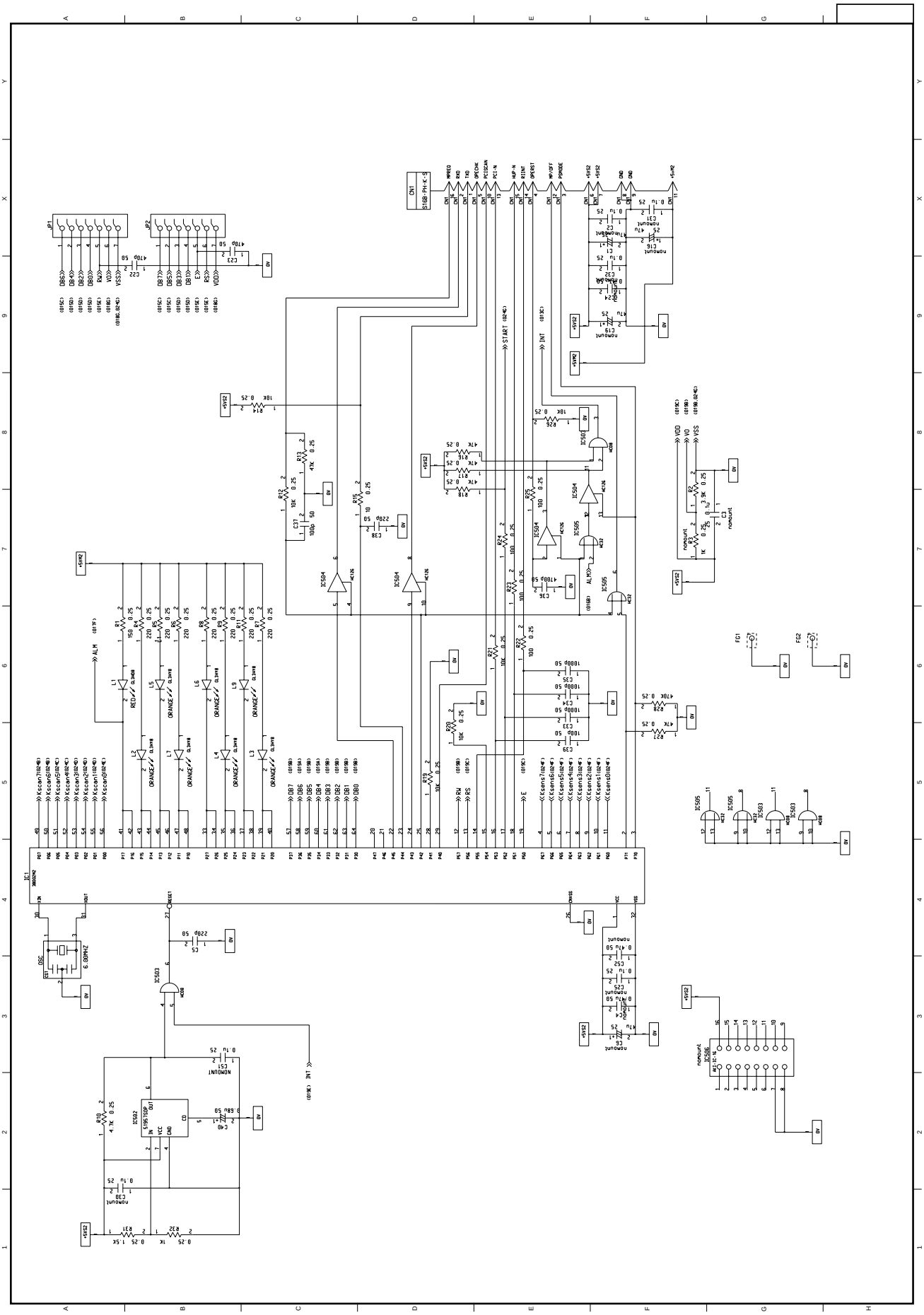
V46-PCB Circuit Diagram (12/14)
(41999301SS)



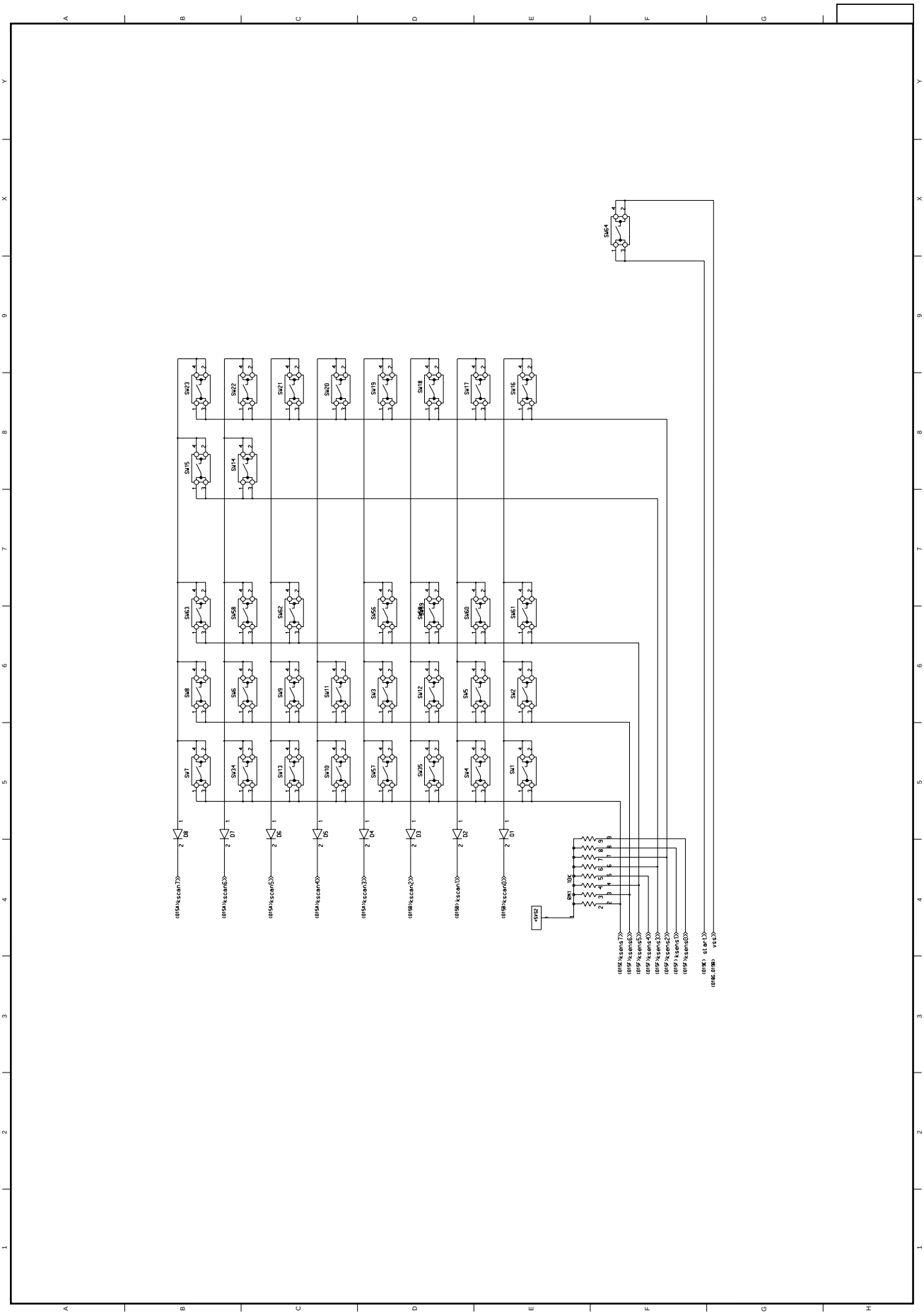
V46-PCB Circuit Diagram (13/14)
(41999301SS)



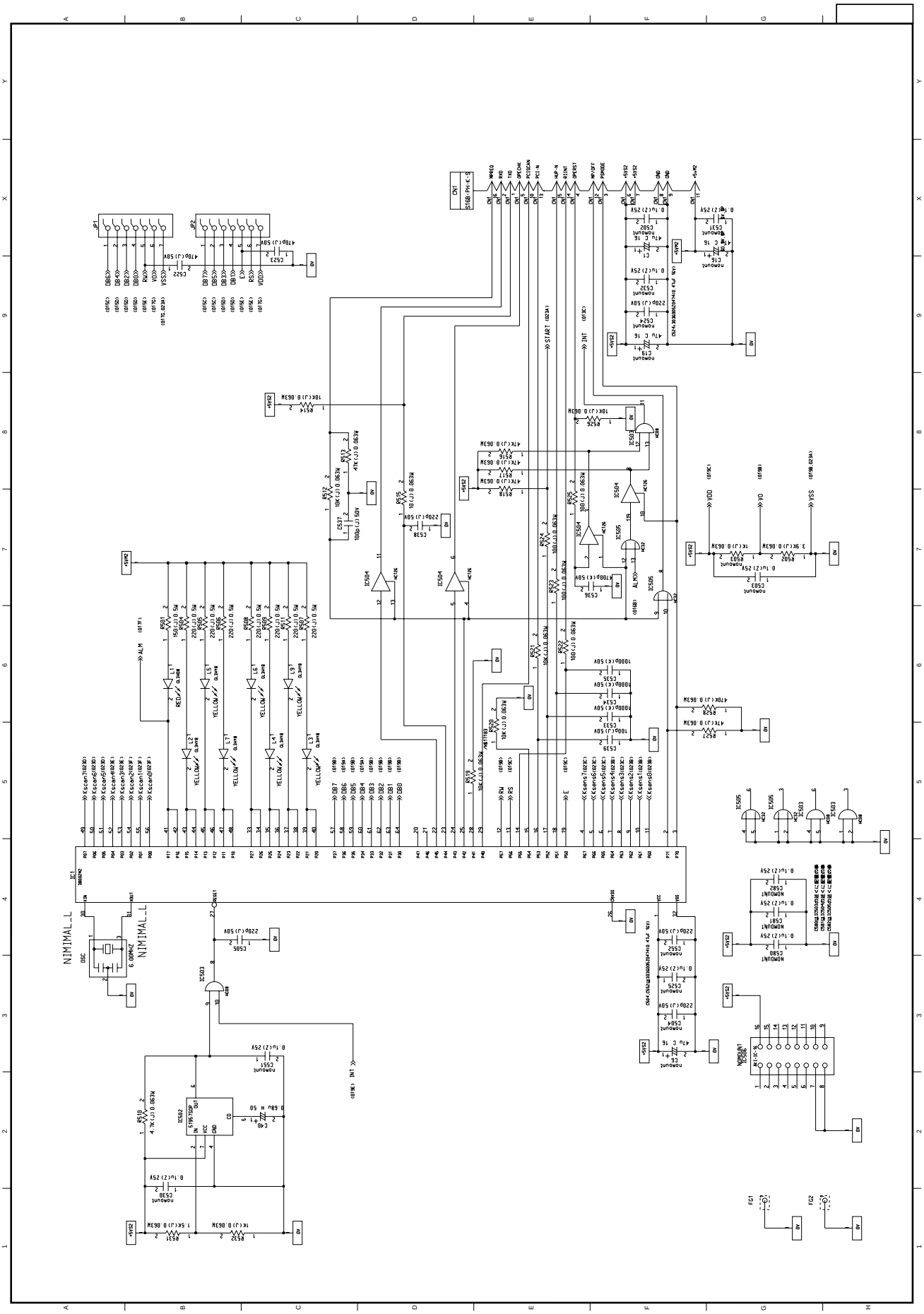
V46-PCB Circuit Diagram (14/14)
(41999301SS)



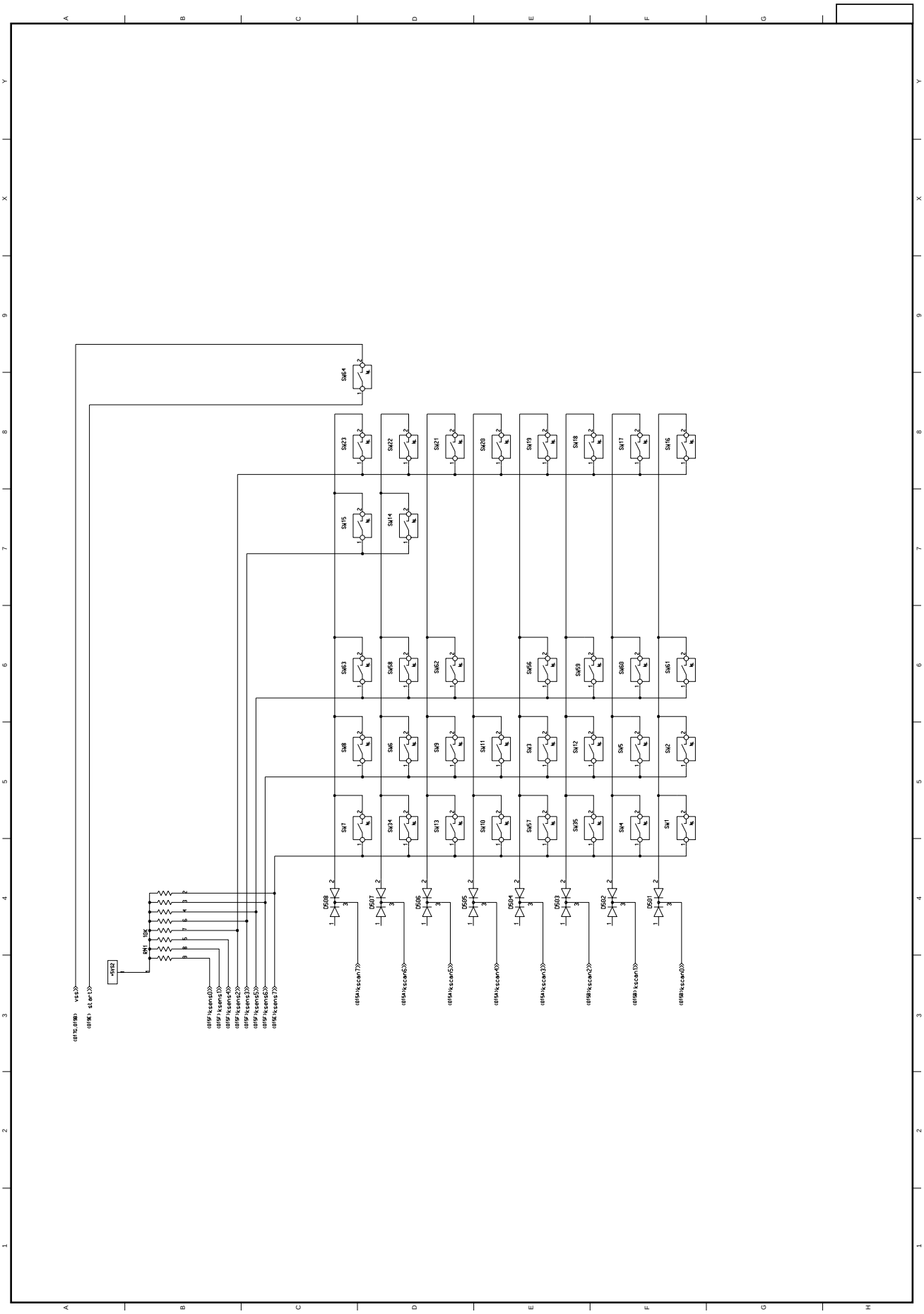
04W-PCB Circuit Diagram (1/2)
(40071401SS)



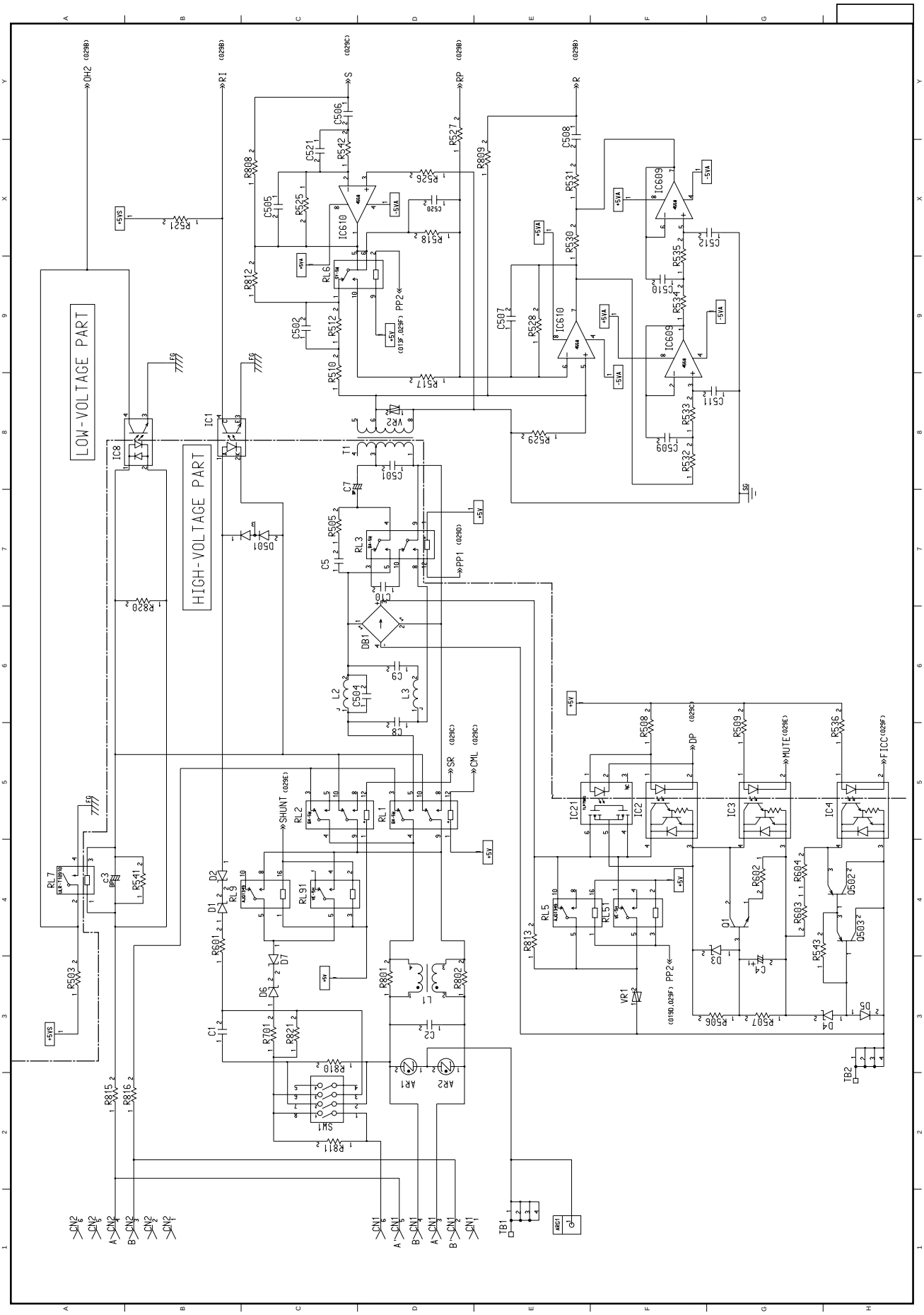
04W-PCB Circuit Diagram (2/2)
(40071401SS)



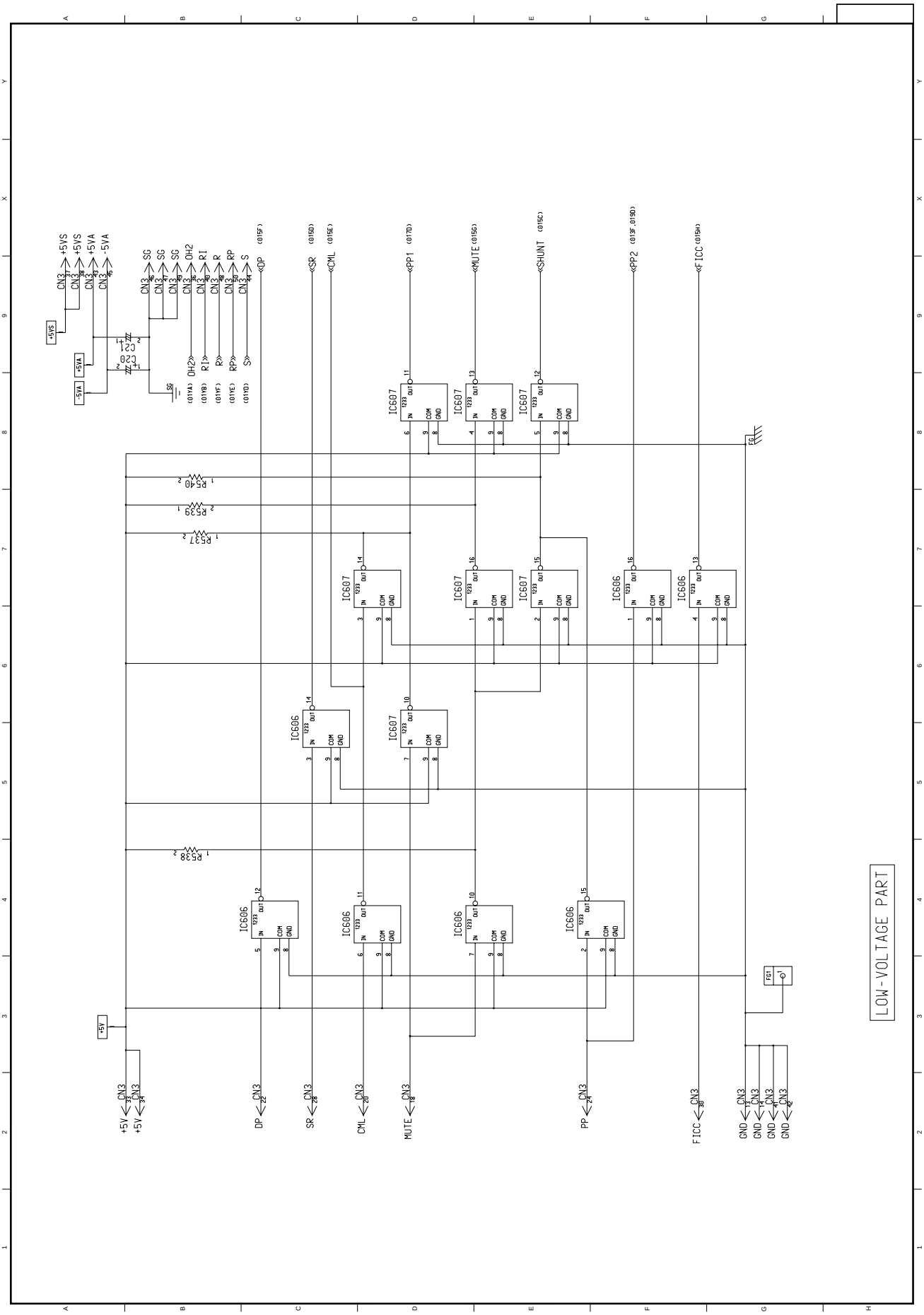
04S-PCB Circuit Diagram (1/2)
(42306001SS)



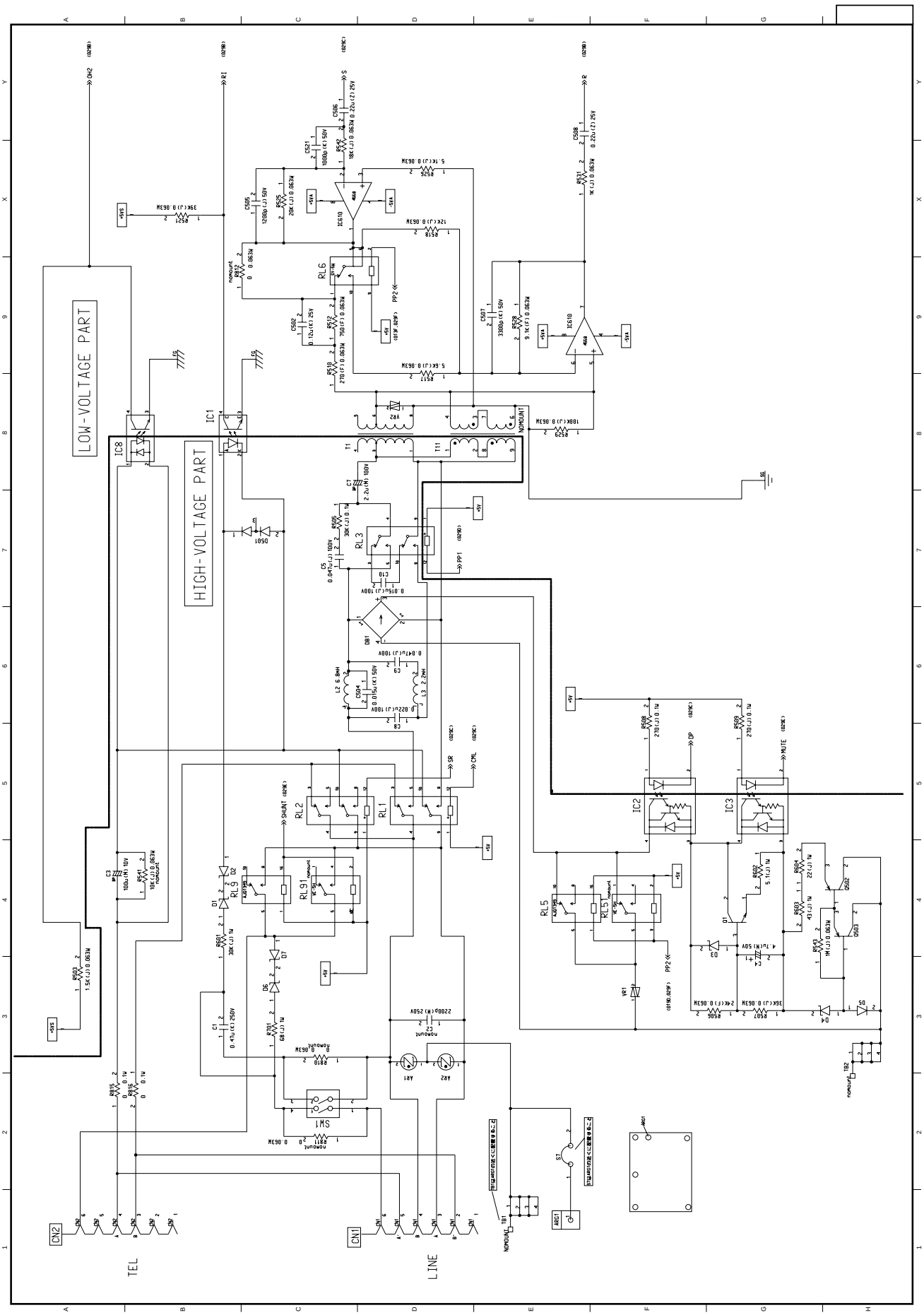
04S-PCB Circuit Diagram (2/2)
(42306001SS)



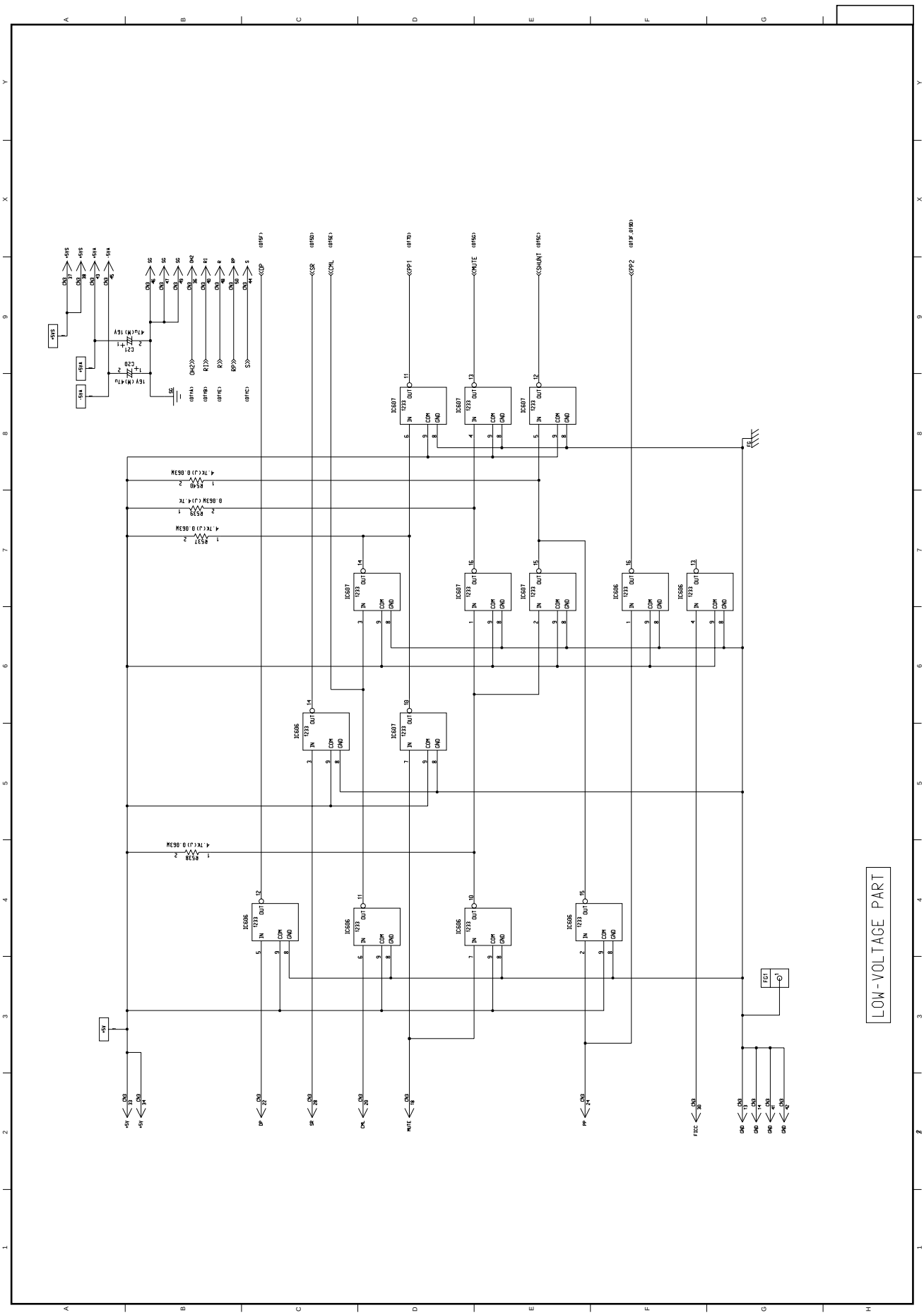
EN9-PCB Circuit Diagram (1/2)
(41144301SS)



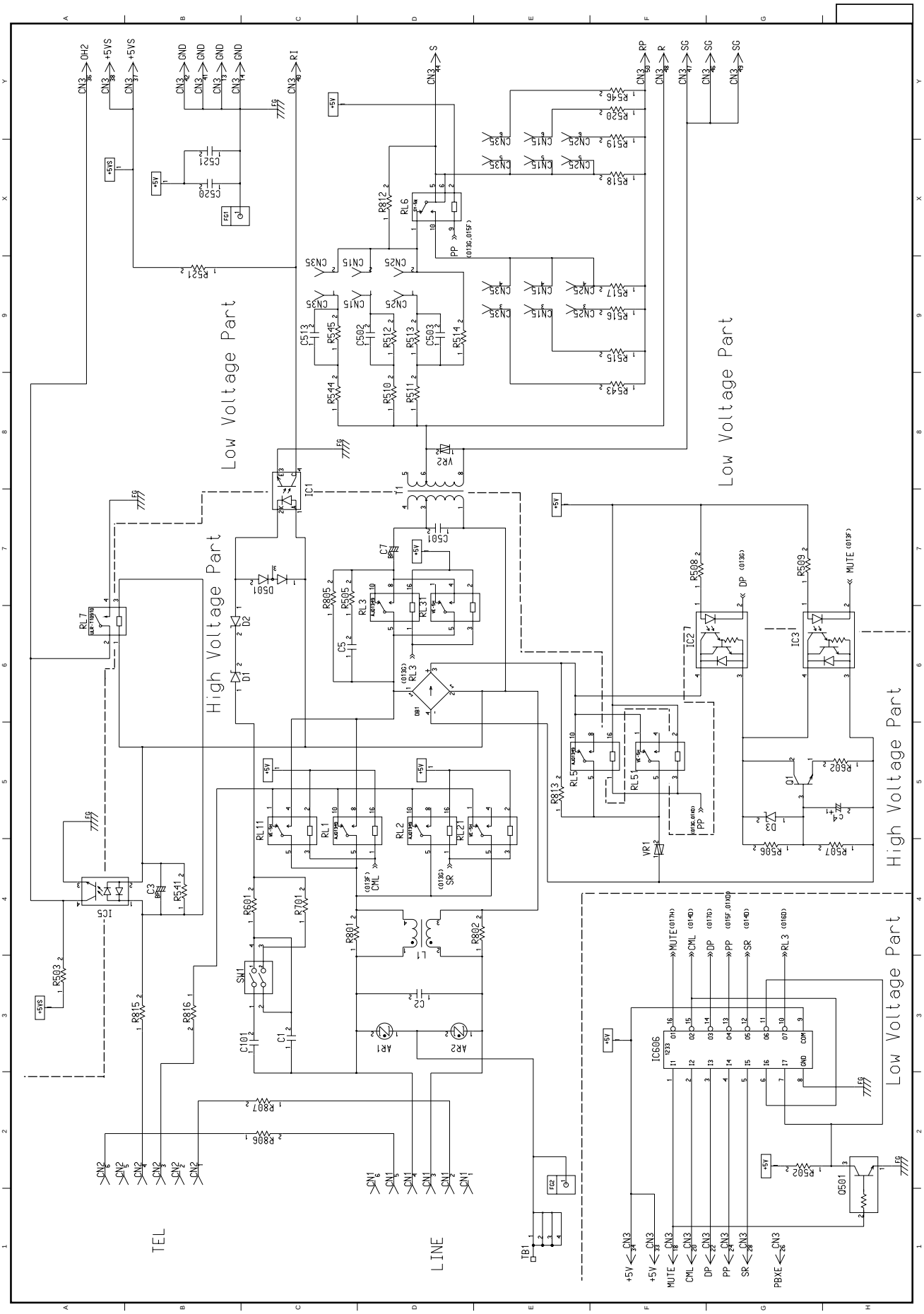
EN9-PCB Circuit Diagram (2/2)
(41144301SS)



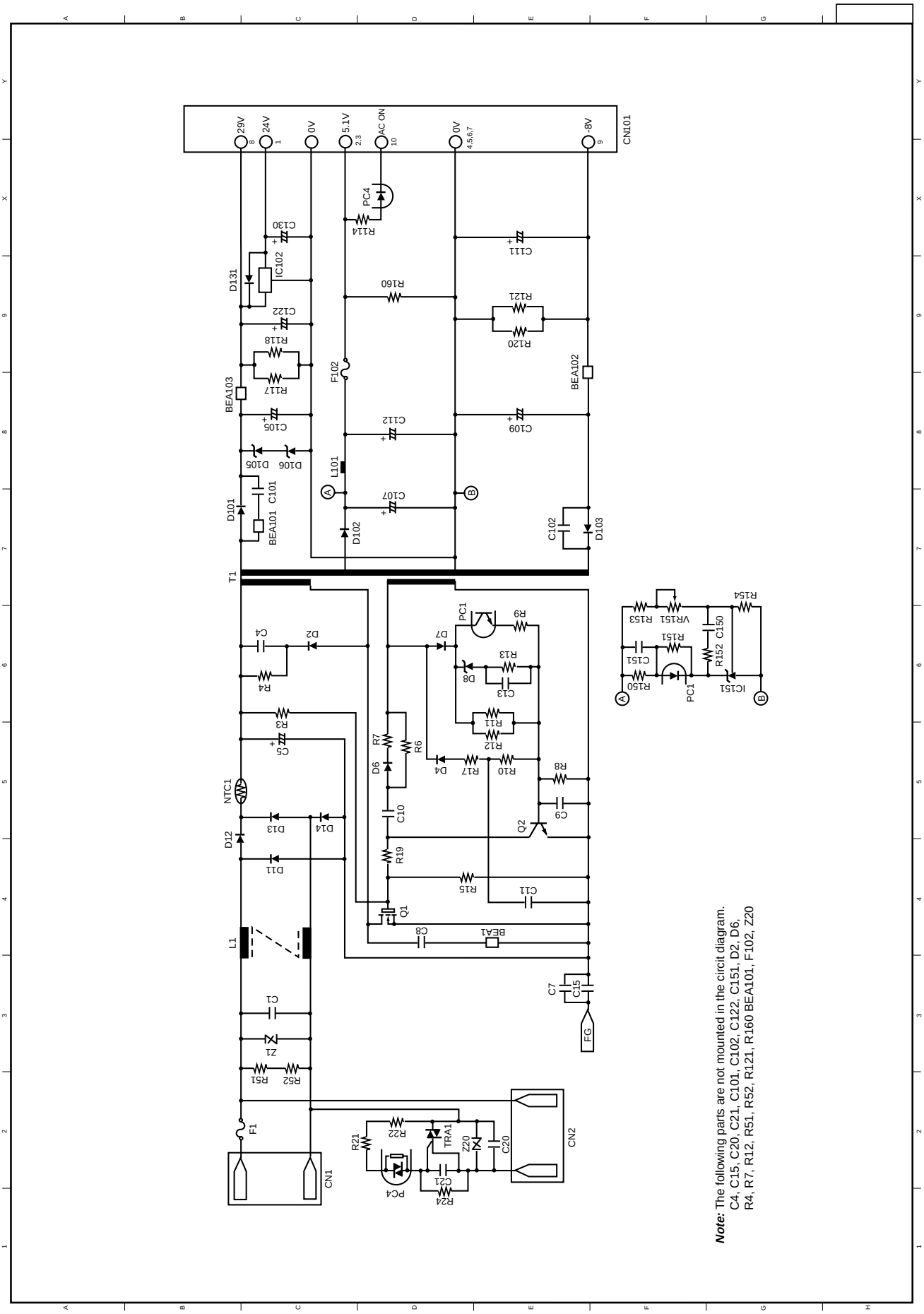
EN2-PCB Circuit Diagram (1/2)
(42310801SS)



EN2-PCB Circuit Diagram (2/2)
(42310801SS)

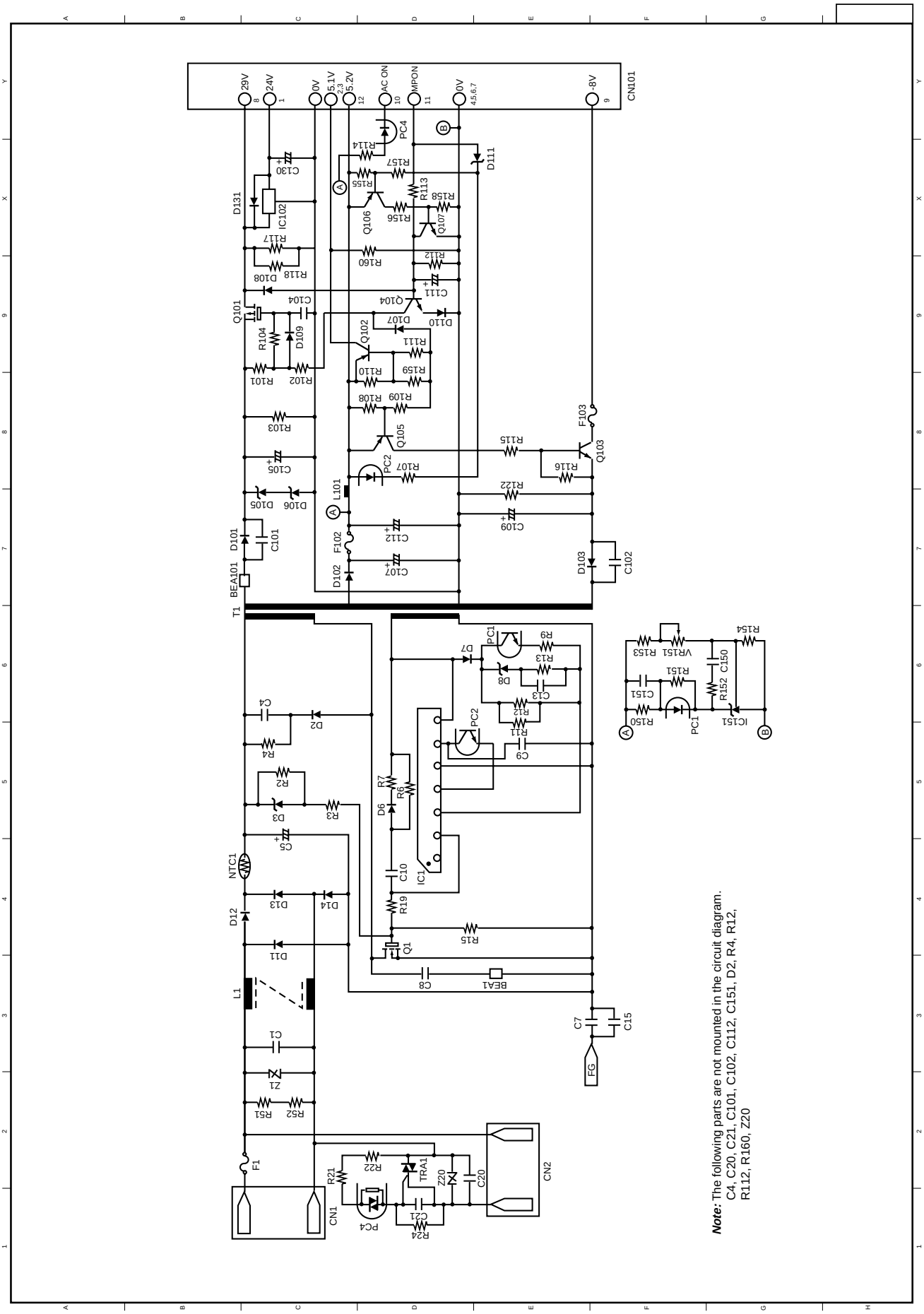


INU-PCB Circuit Diagram (1/1)
(41144501SS)

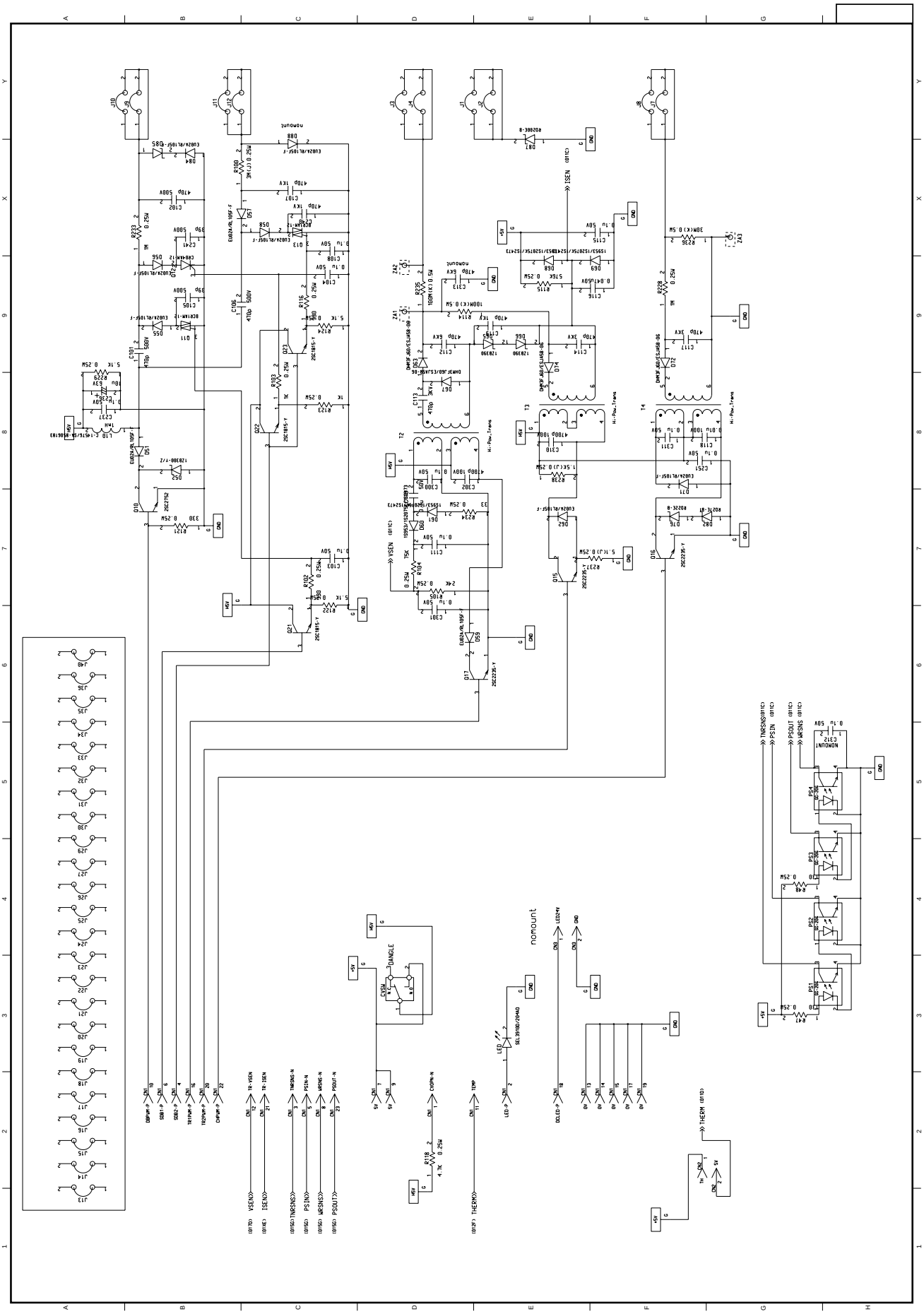


Note: The following parts are not mounted in the circit diagram.
C4, C15, C20, C21, C101, C102, C122, C151, D2, D6,
R4, R7, R12, R51, R52, R121, R160 BEA101, F102, Z20

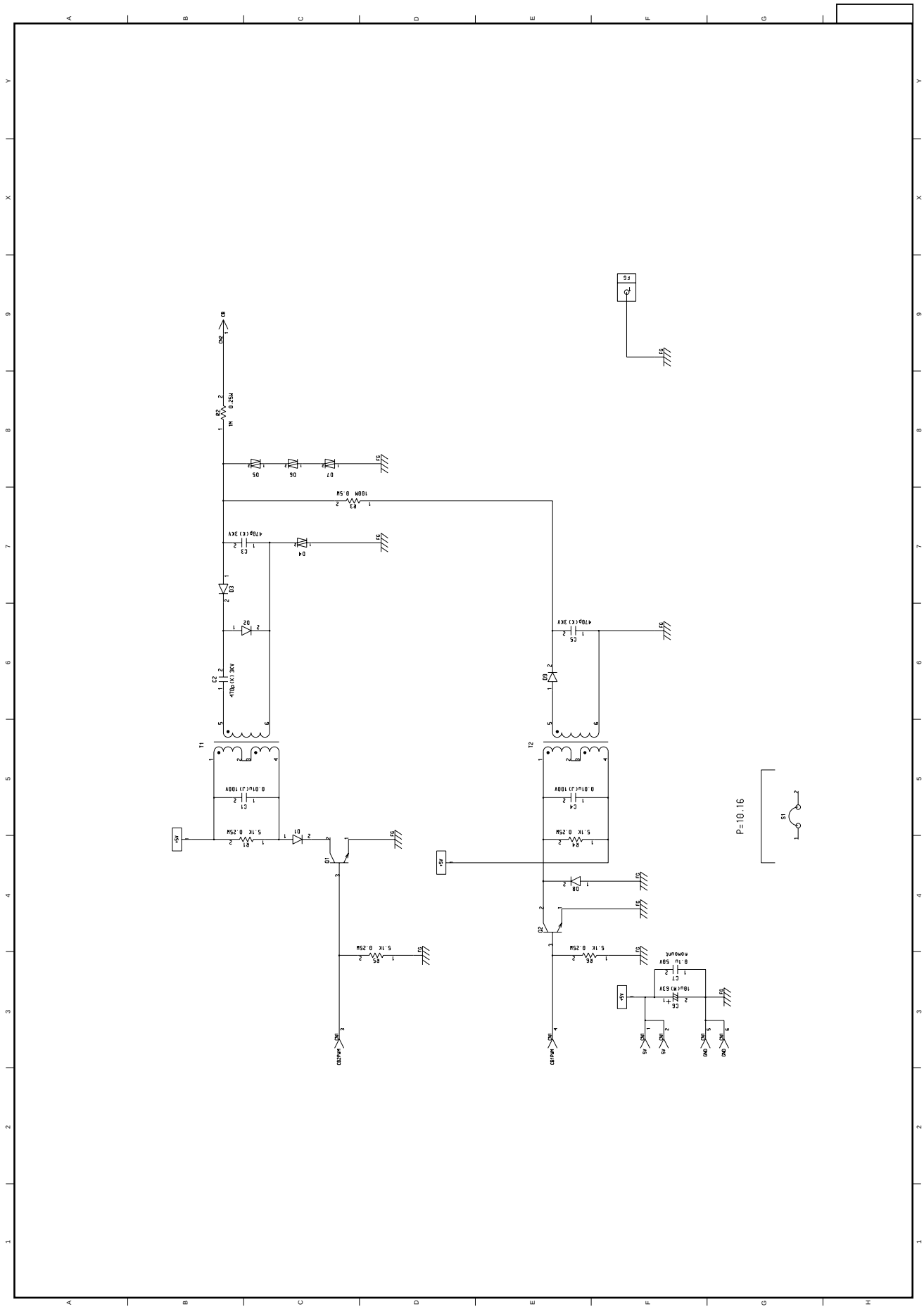
POW (120VAC) Circuit Diagram (1/1)
(MPW1546)



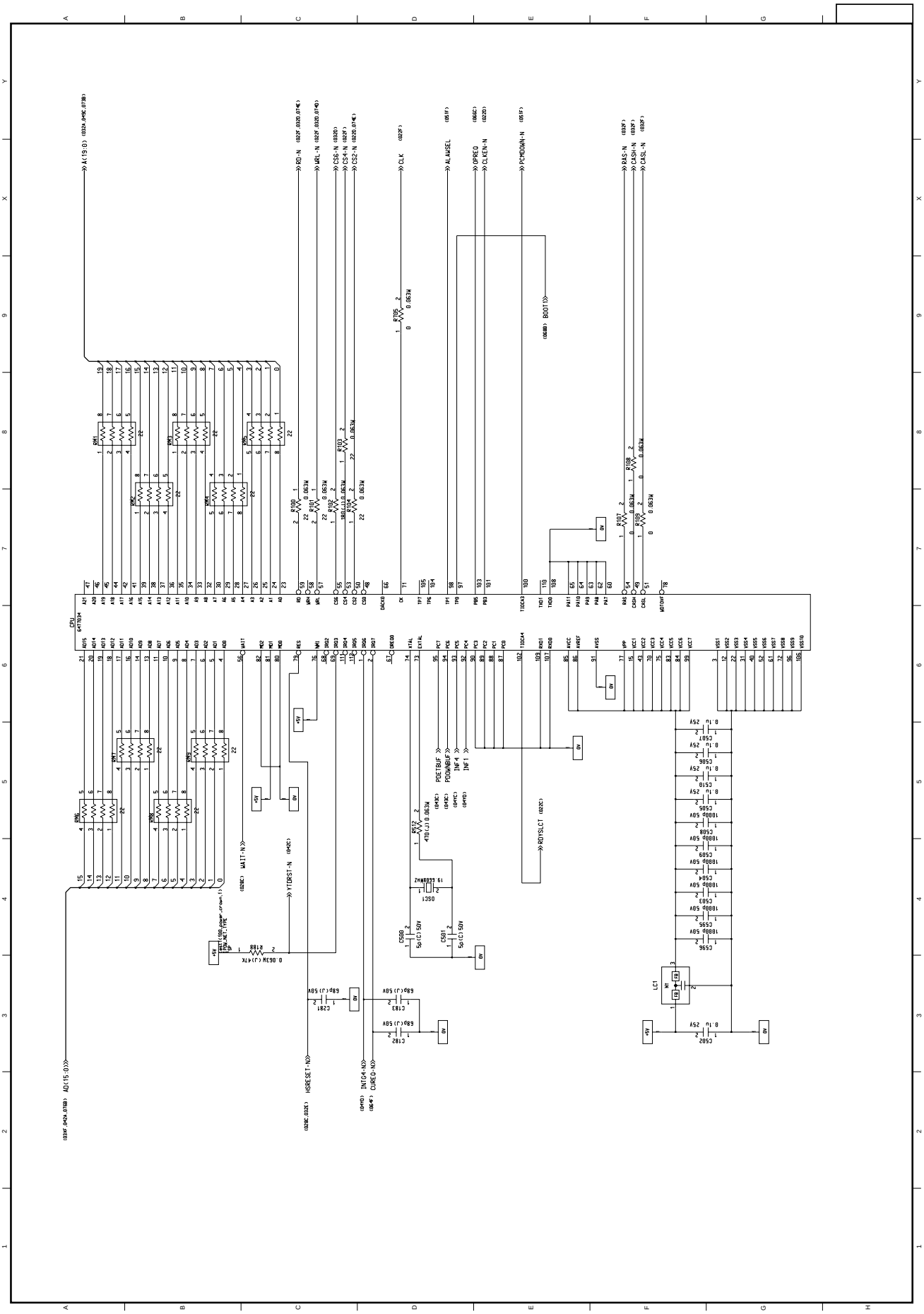
POW (230VAC) Circuit Diagram (1/1)
(MPW1446)



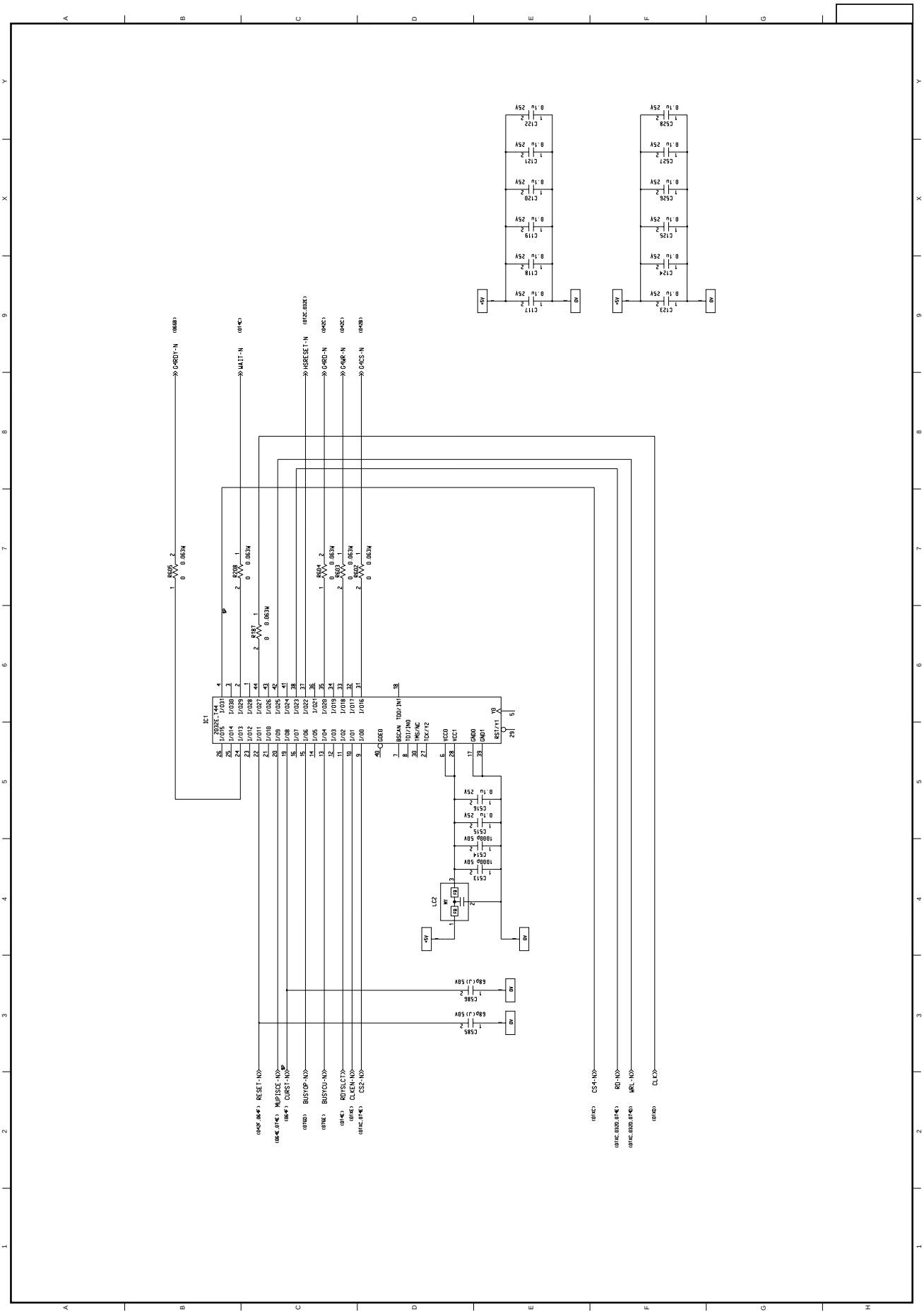
P2H-PCB Circuit Diagram (1/1)
(40599101SS)



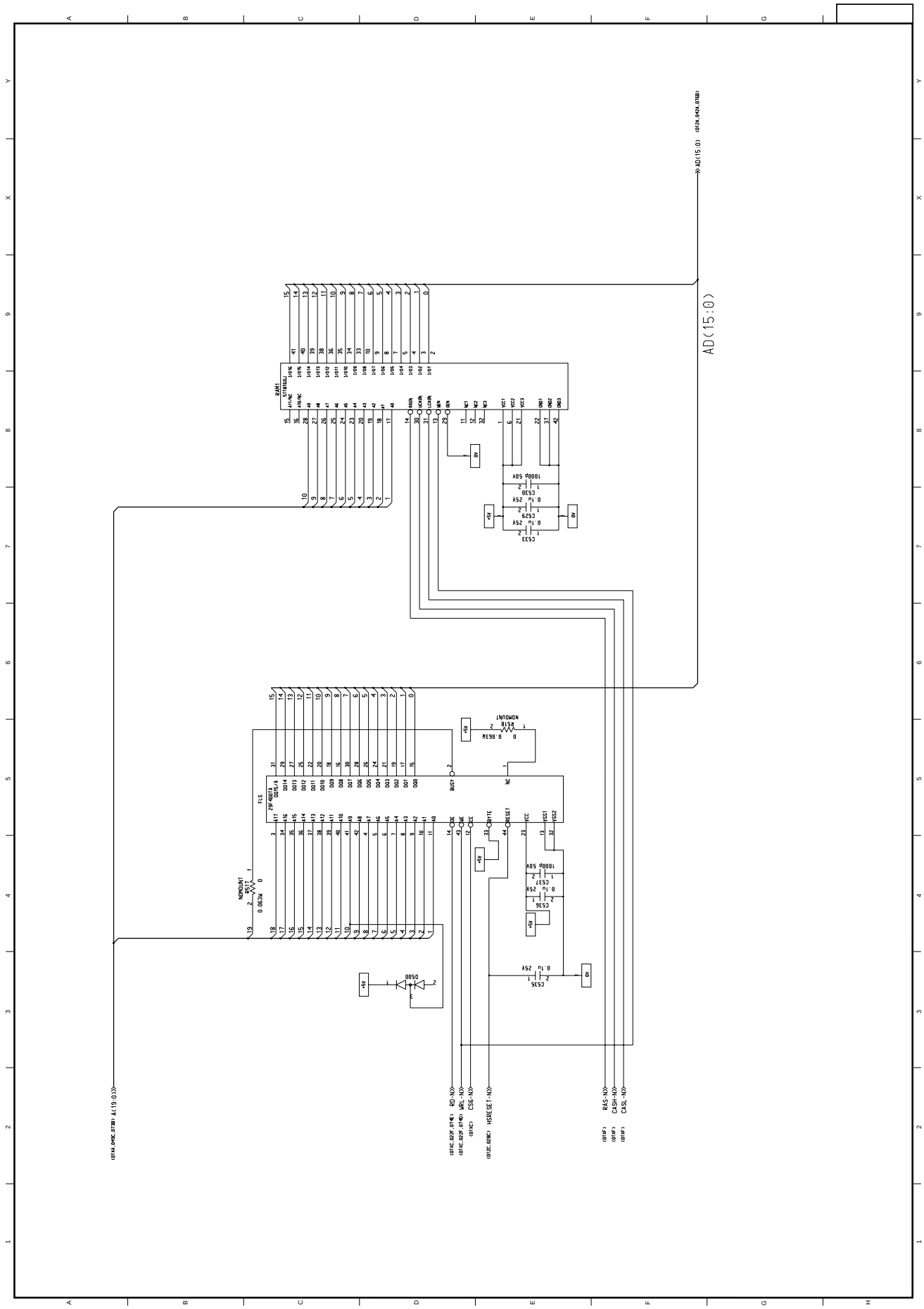
P6L-PCB Circuit Diagram (1/1)
(40386701SS)



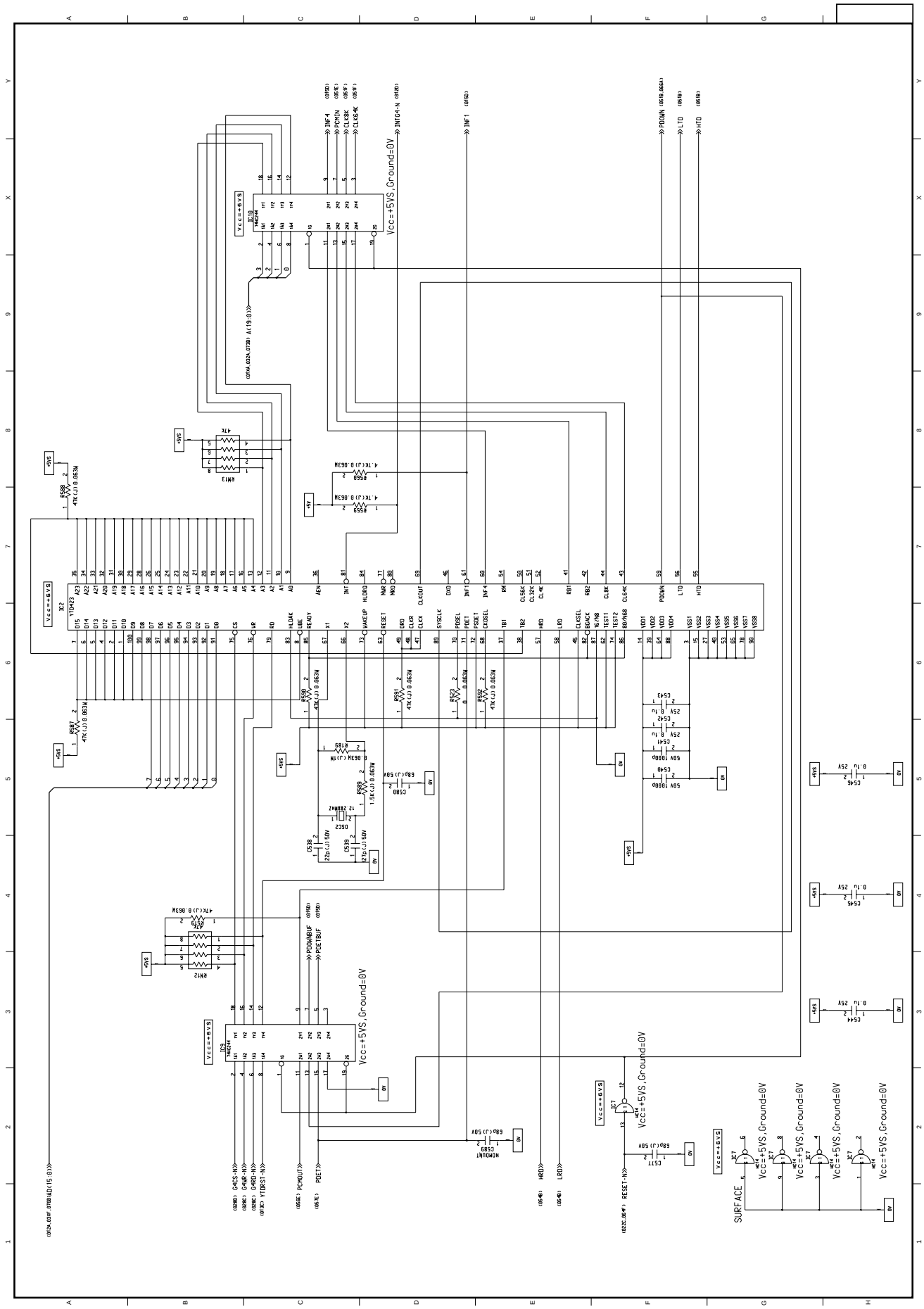
G4N-PCB Circuit Diagram (1/7)
(41033701SS)



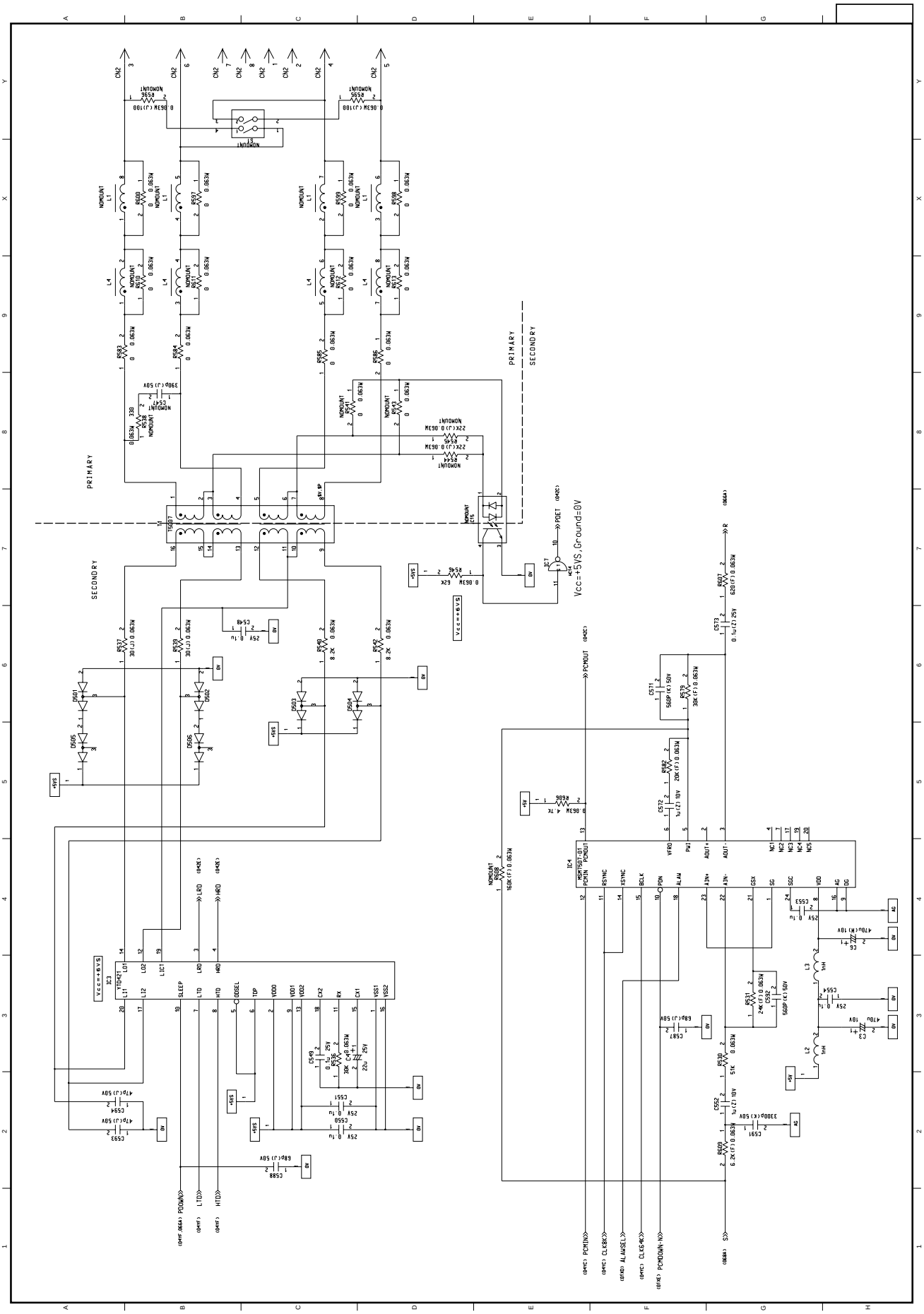
G4N-PCB Circuit Diagram (2/7)
(41033701SS)



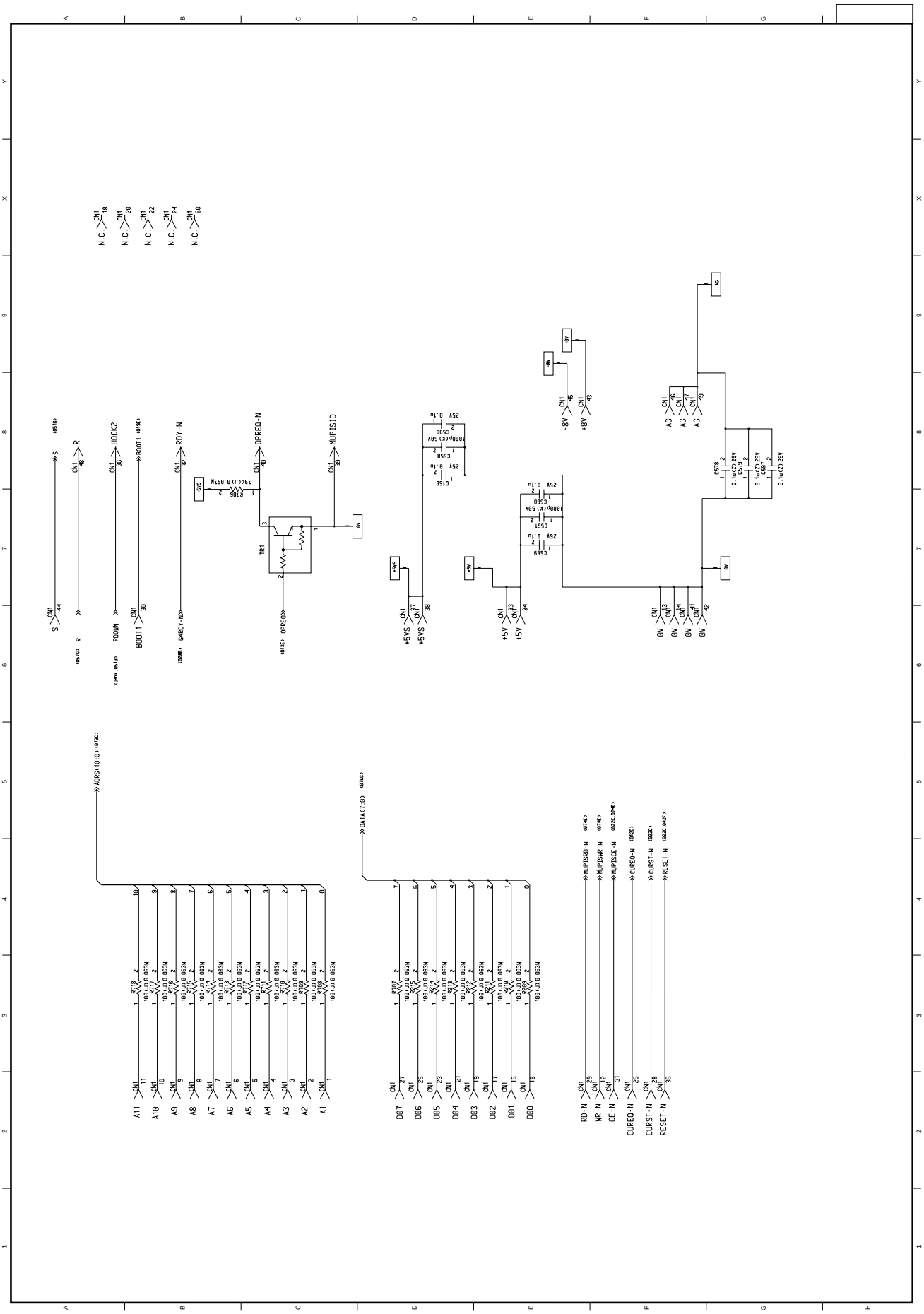
G4N-PCB Circuit Diagram (3/7)
(41033701SS)



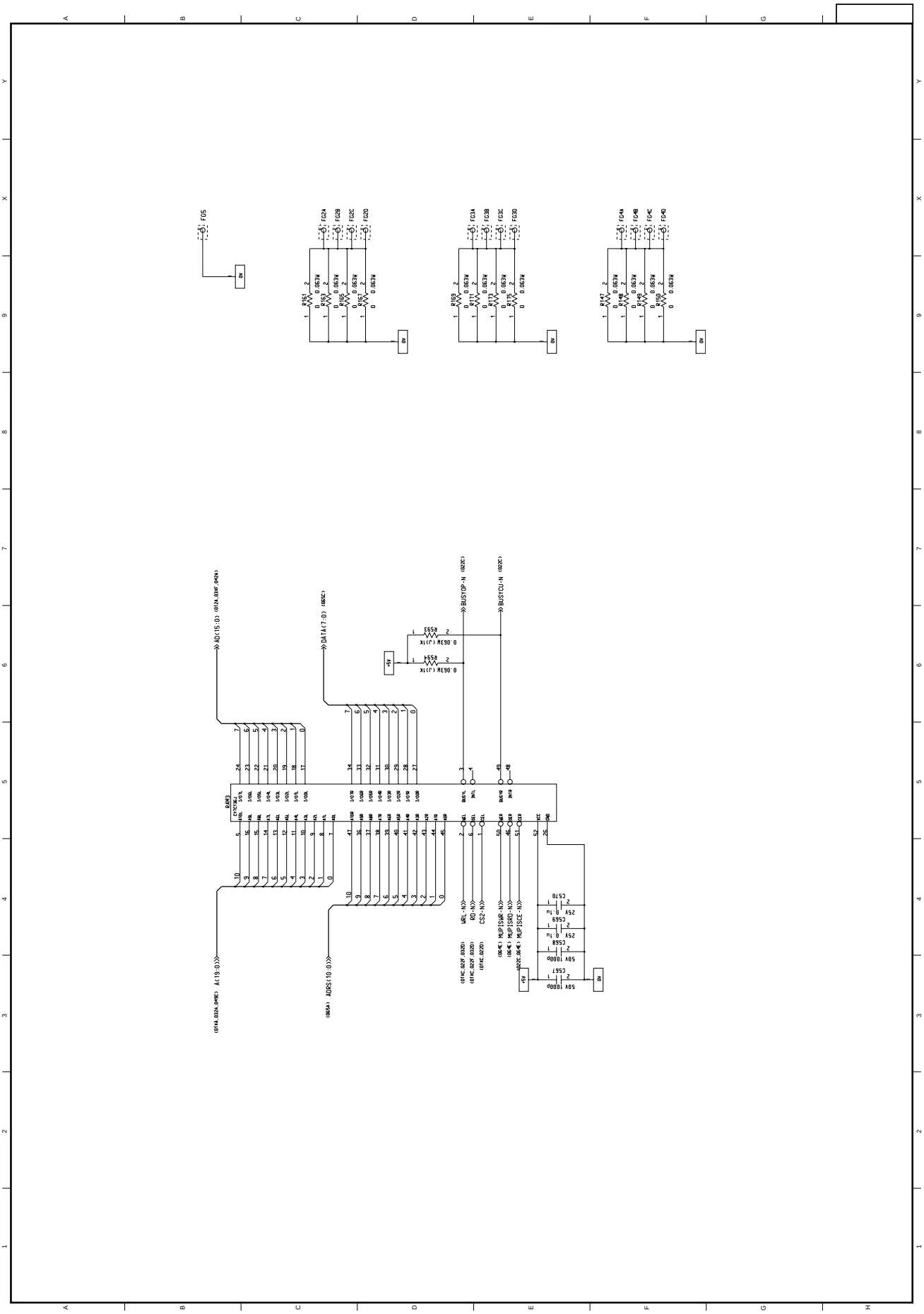
G4N-PCB Circuit Diagram (4/7)
(41033701SS)



G4N-PCB Circuit Diagram (5/7)
(41033701SS)



G4N-PCB Circuit Diagram (6/7)
(41033701SS)



G4N-PCB Circuit Diagram (7/7)
(41033701SS)

APPENDIX D PARTS LIST

V46-PCB Assy (1/8~8/8)	(41999301)
04W-PCB Assy (1/2~2/2)	(40071401)
04S-PCB Assy (1/3~3/3)	(42306001)
EN9-PCB Assy (1/5~5/5)	(41144301)
EN2-PCB Assy (1/5~5/5)	(42310801)
INU-PCB Assy (1/3~3/3)	(41144501)
INU-PCB Assy (1/4~4/4)	(41144502)
MPW1546 POW(120VAC) Assy (1/4~4/4)	(S1PS1303)
MPW1446 POW(230VAC) Assy (1/5~5/5)	(S1PS1302)
P2H-PCB Assy (1/3~3/3)	(40599101)
P6L-PCB Assy (1/1)	(40386701)
G4N-PCB Assy (1/4~4/4)	(41033701)

V46-PCB Assy (1/8)
(41999301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D519	1SS392 (TE85R) D-Signal -C	6110225N0001	1	
2	D508,D511,D514,D517,D518	SS100MA80VACP D-Signal (CP)	611A0000N0001	5	
3	D507,D510,D513	SS100MA80VKCP D-Signal (CP)	611A0000N0002	3	
4	D3,D4,D18,D20,D21,D501, D509,D512	SS100MA80VSCP D-Signal (CP)	611A0000N0003	8	
5	D25	SB007T03C D-Signal (CP)	611A0232N0002	1	
6	D2	RD.7M-B2 D-Zener (CP)	613A0233M0102B	1	
7					
8	R525,R550	CR/RK73H/ERJ/MCRF102 RES-MET RN -C	3235003F0102	2	
9	R71,R544,R642	CR/RK73H/ERJ/MCRF103 RES-MET RN -C	3235003F0103	3	
10	R523,R587,R915	CR/RK73H/ERJ/MCRF104 RES-MET RN -C	3235003F0104	3	
11	R526,R630,R641,R739	CR/RK73H/ERJ/MCRF122 RES-MET RN -C	3235003F0122	2	
12	R245	CR/RK73H/ERJ/MCRF123 RES-MET RN -C	3235003F0123	2	
13	R940-R942	CR/RK73H/ERJ/MCRF124 RES-MET RN -C	3235003F0124	3	
14	R224,R226	CR/RK73H/ERJ/MCRF133 RES-MET RN -C	3235003F0133	2	
15	R625	CR/RK73H/ERJ/MCRF163 RES-MET RN -C	3235003F0163	1	
16	R628,R629	CR/RK73H/ERJ/MCRF203 RES-MET RN -C	3235003F0203	2	
17	R524,R530	CR/RK73H/ERJ/MCRF204 RES-MET RN -C	3235003F0204	2	
18	R549,R745	CR/RK73H/ERJ/MCRF222 RES-MET RN -C	3235003F0222	2	
19	R507	CR/RK73H/ERJ/MCRF241 RES-MET RN -C	3235003F0241	1	
20	R503	CR/RK73H/ERJ/MCRF362 RES-MET RN -C	3235003F0362	1	
21	R508	CR/RK73H/ERJ/MCRF391 RES-MET RN -C	3235003F0391	1	

V46-PCB Assy (2/8)
(41999301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
22	R511	CR/RK73H/ERJ/MCRF513 RES-MET RN -C	3235003F0513	1	
23	R514	CR/RK73H/ERJ/MCRF563 RES-MET RN -C	3235003F0563	1	
24	R512,R627,R924-R926	CR/RK73H/ERJ/MCRF623 RES-MET RN -C	3235003F0623	5	
25	R506	CR/RK73H/ERJ/MCRF821 RES-MET RN -C	3235003F0821	1	
26	R626	CR/RK73H/ERJ/MCRF822 RES-MET RN -C	3235003F0822	1	
27	R505	CR/RK73H/ERJ/MCRF823 RES-MET RN -C	3235003F0823	1	
28	R746	CR/RK73H/ERJ/MCRF912 RES-MET RN -C	3235003F0912	1	
29	R246,R740,R741,R910	CR/RK73H/ERJ/MCRF913 RES-MET RN -C	3235003F0913	4	
30	R515,R532,R533,R572,R573, R908,R909	CR/RK73K/ERJ/MCRJ100 RES-MET RN -C	3235003J0100	7	
31	R581,R586	CR/RK73K/ERJ/MCRJ101 RES-MET RN -C	3235003J0101	2	
32	R16,R18,R37,R509	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	4	
33	R10,R15,R17,R19,R718, R468,R570,R580,R582-R585,R598,R607,R655-R658,R733,R918,R944,R945, R947,R950	CR/RK73K/ERJ/MCRJ103 RES-MET RN -C	3235003J0103	24	
34	R205,R734,R736	CR/RK73K/ERJ/MCRJ104 RES-MET RN -C	3235003J0104	3	
35	R999	CR/RK73K/ERJ/MCRJ182 RES-MET RN -C	3235003J0182	1	
36	R85	CR/RK73K/ERJ/MCRJ183 RES-MET RN -C	3235003J0183	1	
37	R13,R527,R528,R653,R654, R659-R662,R150	CR/RK73K/ERJ/MCRJ221 RES-MET RN -C	3235003J0221	10	
38	R535,R566	CR/RK73K/ERJ/MCRJ222 RES-MET RN -C	3235003J0222	2	
39	R84,R929	CR/RK73K/ERJ/MCRJ273 RES-MET RN -C	3235003J0273	2	
40	R11,R12,R14	CR/RK73K/ERJ/MCRJ301 RES-MET RN -C	3235003J0301	3	
41	R951	CR/RK73K/ERJ/MCRJ302 RES-MET RN -C	3235003J0302	1	

V46-PCB Assy (3/8)
(41999301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
42	R513	CR/RK73K/ERJ/MCRJ333 RES-MET RN -C	3235003J0333	1	
43	R809	CR/RK73K/ERJ/MCRJ362 RES-MET RN -C	3235003J0362	1	
44	R83	CR/RK73K/ERJ/MCRJ393 RES-MET RN -C	3235003J0393	1	
45	R203,R204,R210,R211,R738	CR/RK73K/ERJ/MCRJ470 RES-MET RN -C	3235003J0470	5	
46	R522,R548,R554,R555,R564, R565,R589	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	7	
47	R30,R53,R59,R93,R94,R214, R215,R534,R569,R574,R579, R823,R901,R903,R905,R948, R949,R952,R953	CR/RK73K/ERJ/MCRJ473 RES-MET RN -C	3235003J0473	19	
48	R588,R591,R610,R622	CR/RK73K/ERJ/MCRJ474 RES-MET RN -C	3235003J0474	4	
49	R81,R86,R221,R471	CR/RK73M/ERJ/MCRJ512 RES-MET RN -C	3235003J0512	4	
50	R927,R943	CR/RK73M/ERJ/MCRJ513 RES-MET RN -C	3235003J0513	2	
51	R531	CR/RK73K/ERJ/MCRJ683 RES-MET RN -C	3235003J0683	1	
52	R521	CR/RK73K/ERJ/MCRJ752 RES-MET RN -C	3235003J0752	1	
53	R631,R643	CR/RK73K/ERJ/MCRJ822 RES-MET RN -C	3235003J0822	2	
54	R538,R824	RM73B2A101F RES-RN (CP)	323A5003F0101	2	
55	R43,R465	RM73B2A301F RES-RN (CP)	323A5003F0301	2	
56	R744	RM73B2A513F RES-RN (CP)	323A5003F0513	1	
57	R540,R541	RM73B2A121J RES-RN (CP)	323A5003J0121	2	
58	R542,R543	RM73B2A200J RES-RN (CP)	323A5003J0200	2	
59	R36	2125JPW Chip Jumper (CP)	323A5003P0001	1	
60	R25,R26	MSF1/2B1ΩJ RES-RS	324A1001J0109	2	
61	R23,R24	MSF1/2B2ΩJ RES-RS	324A1001J0209	2	

V46-PCB Assy (4/8)
(41999301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
62	R4,R6,R9,R20,R21,R28,R29, R31,R45-R46,R50-R52,R54-R57,R60-R67,R68,R95-R99, R101-R105,R108,R151, R223,R456,R458-R464, R536,R545,R705,R706,R709, R708,R715,R716,R717,R719, R728-R732,R735,R737, R747,R821,R907,R920-R923	CR/RK73Z/ERJ/MCRJ-0V RES-0Ω -C	3255003P0001	71	
63	RM30-RM35	CN1J/EXB/BCN47KΩJ RES-Block -C	3345003J0473	6	
64	RM1,RM2,RM8,RM9,RM17-RM20	CN1J/EXB/BCN0Ω RES-Block -C	3345003P0001	8	
65	RM12-RM16,RM21-RM23	ACA3216M4-300T Core -C	1055010C0001	8	
66	C912,C942	GRM/UMK/MCH/100CH CAP-Ceramic -C	3033003C0100	2	
67	C60,C948	GRM/UMK/MCH/101CH CAP-Ceramic -C	3033003C0101	2	
68	C928	GRM/UMK/MCH/120CH CAP-Ceramic -C	3033003C0120	1	
69	C565,C566	GRM/UMK/MCH/150CH CAP-Ceramic -C	3033003C0150	2	
70	C740,C741	GRM/UMK/MCH/180CH CAP-Ceramic -C	3033003C0180	2	
71	C48,C49,C232,C569,C572, C652-C654,C730,C739, C743,C908,C932	GRM/UMK/MCH/221CH CAP-Ceramic -C	3033003C0221	13	
72	C601	GRM/UMK/MCH/391CH CAP-Ceramic -C	3033003C0391	1	
73	C504,C524,C529,C531-C533,C558,C559,C568,C570, C571,C573-C576,C580, C581,C585,C587,C588,C594, C598-C600,C606,C607, C612,C619,C810,C834, C889,C901-C906,C913-C921,C923,C925	GRM/UMK/MCH/102B 50V CAP-Ceramic -C	3036003K0102	48	
74	C508,C515,C516,C562, C626,C629,C637,C669-C671,C742,C877	GRM/UMK/MCH/103B 50V CAP-Ceramic -C	3036003K0103	12	
75	C731	GRM/UMK/MCH/152B 50V CAP-Ceramic -C	3036003K0152	1	
76	C210	GRM/UMK/MCH/222B 50V CAP-Ceramic -C	3036003K0222	1	
77	C521,C655-C657	GRM/TMK/MCH/223B 25V CAP-Ceramic -C	3036003K0223	4	

V46-PCB Assy (5/8)
(41999301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
78	C634,C635,C642,C643	GRM/UMK/MCH/332B 50V CAP-Ceramic -C	3036003K0332	4	
79	C514,C522,C658	GRM/TMK/MCH/473B 25V CAP-Ceramic -C	3036003K0473	3	
80	C542,C548	GRM/UMK/MCH/103z 50V CAP-Ceramic -C	3036003Z0103	2	
81	C16,C39,C40,C56,C227-C229,C450-C452,C501,C509,C512,C513,C523,C530,C540,C541,C543,C544,C549,C556,C560,C563,C564,C579,C582-C584,C586,C589,C590,C595-C597,C604,C605,C620,C633,C638-C641,C644-C647,C659,C729,C738,C746,C747,C827,C828,C873,C878,C879,C888,C890,C909,C910,C924,C926,C927,C931,C933,C940	GRM/TMK/MCH/104Z 25V CAP-Ceramic -C	3036003Z0104	67	
82	C211,C212,C214	GRM/LMK/MCH/105Z 10V CAP-Ceramic -C	3036003Z0105	3	
83	C876	CK2012F1C105Z 16V CAP-Ceramic -C 1µF	303A6008Z1105	1	
84	C505	CK2012F1C474Z 16V CAP-Ceramic -C	303A6008Z1474	1	
85	C567,C835	CK2012F1H104Z 50V CAP-Ceramic -C	303A6008Z3104	2	
86	C230	TC04RKMF10VB330MF50 CAP-Alum(CE) -P	3041011A1331	1	
87	C3	UVX/SME10VB-100-0A CAP-Alum(CE) -P	3041103A1101	1	
88	C2,C12	UVX/SME16VB-10-0A CAP-Alum(CE) -P	3041103C1100	2	
89	C204-C206	10MS5-10M 10V CAP-CE 10µF	304A1046A1100	3	
90	C201,C202,C207	10MS5-33M 16V CAP-CE 33µF	304A1046A1330	3	
91	C18,C21	16MS5-47M 16V CAP-CE 47µF	304A1046C1470	2	
92	C29	50MS5-0.68M 50V CAP-CE 0.68µF	304A1046H1688	1	
93	C30	URS1A332MHA 10V CAP-Alum(CE) -	3041106A1332	1	
94	C22	KMG10VB-470M-FC 10V CAP-Alum(CE) - 470µF	304A1180A1471	1	

V46-PCB Assy (6/8)
(41999301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
95	C17,C24,C25	KMG50VB-47M-FC 50V CAP-Alum(CE) - 47µF	304A1180H1470	3	
96	C734	GRM/UMK/MCH/470CH CAP-Ceramic -C	3033003C0470	1	
97	C943,C945	GRM/UMK/MCH/330CH CAP-Ceramic -C	3033003C0330	2	
98					
99	CPU	HD6437034BP01F Micon-MOS (ROM)-F	8530421N0001	1	
100	IC15	SN74AHCT14NSR Digital IC-MOS-B	7022850N3014	1	
101	IC14	74HC126FP Digital IC-MOS-S	702A1703N0126	1	
102	IC12	TC7SH08FU Digital IC-MOS-CP	702A3225N0042	1	
103	IC22	NR8576AB Analog-BIPLIN -S	7201540N0001	1	
104	IC5	UPC324G2 Analog-BIPLIN -S	720A0023N0038	1	
105	IC26	NJM386M Analog-BIPLIN -S	720A0028N0006	1	
106	IC19	NJM4558M Analog-BIPLIN -S	720A0028N0039	1	
107	IC6	NJM318E Analog-BIPLIN -S	720A0028N0113	1	
108	IC20	UPC393G2 Analog-BIPLIN -S	720A0523N0011	1	
109	IC7,IC9	MTD2005FB Analog-BIPLIN -S	720A1816N0001	2	
110	IC16	M51953AFP Analog-BIPLIN -S	720A4022N0008	1	
111	IC1	RN5RF33BA-TR Analog-MOSLIN-C	7301042N0004	1	
112	IC11	TC4051BF Analog-MOS SW-S	731A0525N0001	1	
113	IC17	OR-MIN195006A/DF	42217001	1	
114	IC18	STLC7550TQF7 Analog-MOSdata-F	7320068N0001	1	
115	IC31	TC7SH04FU (TE) Digital IC-MOS-B	7023225N0004	1	

V46-PCB Assy (7/8)
(41999301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
116	IC32	TC7SH32FU (TE85L) Digital IC-MOS-B	7023225N0032	1	
117	IC2	IOG73353F22 Digital IC-MOS-F	7024932N0001	1	
118					
119	SDRAM1	K4S641632F-TC75 Memory-MOSSRAM-S	8020073N6604	1	
120	FLS1	FLASH MEM. IC	42364501	1	
121					
122	IC13	LC821033 CPU-Interface -	8550901N0001	1	
123					
124	LC6	MT-SL/ZJSR5101-330 COMP PAR-LC-P	3421003K0330	1	
125	LC1,LC2,LC5	MT-Y/ZJSR5101-223 COMP PAR-LC-P	3421003N0223	3	
126	L5	LHL08TB-103J Coil-HF -P	3531001J0103	1	
127	L1	LHL08TB-181K Coil-HF -P	3531001K0181	2	
128	L6	NL322522-100J-3 H Coil (CP)	353A4007J0100	1	
129	TR508-TR511	DTA114EKAT146 TR-PNP/H -C	6001035N0003	4	
130	TR9	2SA1162-Y TR-PNP/H FREQ-C	600A1025M0017Y	1	
131	TR513	2SA1338 TR-PNP/H FREQ-C	6001003N0002	1	
132	TR14	2SA950-Y TR-PNP/H FREQ-	600A1125M0011Y	1	
133	TR3	2SB1123 TR-PNP/L FREQ-C (CP)	601A1032N0002	1	
134	TR8,TR16,TR51	2SC2712-Y-G TR-NPN/H FREQ- (CP)	602A1025M0033	3	
135	TR2,TR5,TR512	DTC124EKAT146 TR-PNP/H FREQ-C	6021035N0004	3	
136	TR7	DTC123YK/YKAT146 TR-PNP/H FREQ-C	6021003N0004	1	

V46-PCB Assy (8/8)
(41999301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
137	CN12	SLD14S-2 Connector-PCB-	2243001P0140	1	
138	CN7	12JQ-ST Connector-PCB-	2244100P0120	1	
139	CN8	06FE-ST-VK-N Connector-PCB-	2244101P0060	1	
140	CN2	00-8263-0212-00-000 Connector-PCB-	224A3357P0020	1	
141	CN1,CN13,CN21	00-8263-0412-00-000 Connector-PCB-	224A3357P0040	3	
142	CN5	S10B-PH-K-S Connector-PCB-	224A3531P0101	1	
143	CN3	S6B-PH-K-S Connector-PCB-	224A3531P0060	1	
144	CN4	S16B-PH-K-S Connector-PCB-	224A3531P0160	1	
145	CN9	B2B-EH Connector-PCB-	224A3535P0020	1	
146	CN6	23FE-BT-VK-N Connector-PCB-	2244102P0230	1	
147	CN11	5-176135-4 Connector-PCB-	224A4325P0300	1	
148	CN10	6-176135-6 Connector-PCB-	224A4325P0500	1	
149	X1	HC-49/U03C-20.00MHz OSC-Crystal -C	3801001B0003	1	
150	X201	HC-49/U03C-24.576MHz OSC-Crystal -C	3801001B0007	1	
151	LC501,R75,R76,R106,R822	ACB1608M-300-T BATT-Primary -C-	3775001P0001	5	
152				1	
153	BAT1	CR2430-FT6	455A3027P0001	2	
154	F1,F2	251-001 FUSE-	540A2208S1102		

04W-PCB Assy (1/2)
(40071401)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D1 ~ D8	1S953/1S2075K/1S2473 D-Signal	611A0003L0001	8	
2					
3	L1	GL3HD8 PHOTO-LED	650A0128M0030	1	
4	L2 ~ L7, L9	GL3HY8 PHOTO-LED	650A0228M0010	7	
5					
6	R15	RD1/4Y10ΩJ RES-Carbon fim-	321A1421J0100	1	
7	R22 ~ R25	RD1/4Y100ΩJ RES-Carbon fim-	321A1421J0101	4	
8	R1	RD1/4Y150ΩJ RES-Carbon fim-	321A1421J0151	1	
9	R4 ~ R9, R11	RD1/4Y220ΩJ RES-Carbon fim-	321A1412J0221	7	
10	R32	RD1/4Y1KΩJ RES-Carbon fim-	321A1412J0102	1	
11	R10	RD1/4Y4.7KΩJ RES-Carbon fim-	321A1421J0472	1	
12	R12, R14, R19, R20, R21, R26	RD1/4Y10KΩJ RES-Carbon fim-	321A1421J0103	6	
13	R13, R16 ~ R18, R27	RD1/4Y47KΩJ RES-Carbon fim-	321A1421J0473	5	
14	R28	RD1/4Y470KΩJ RES-Carbon fim-	321A1421J0474	1	
15	R31	RD 1/4Y1.5KΩJ RES-Carbon fim-	321A1421J0152	1	
16	R2	RD1/4Y3.9KΩJ RES-Carbon fim-	321A1421J0392	1	
17					
18	RM1	MRM-8-103JA Block Resistor	334A3268J0103	1	
19					
20	C37, C39	DD104B101K50V CAP-Ceramic -	302A4011K3101	2	

04W-PCB Assy (2/2)
(40071401)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	C5, C38	DD104B221K50V 50V CAP-Ceramic -	302A4011K3221	2	
22	C22, C23	CK92C1H471MS 50V CAP-Ceramic -	303A4115M3471	2	
23	C33 ~ C35	RD16XR/CK92C1H102 CAP-Ceramic -P	303A4003M3102	3	
24	C36	CK92C1H472MS 50V CAP-Ceramic -	303A4115M3472	1	
25	C40	50MS5-0.68M 50V CAP-Alum (CE)	304A1046H1688	1	
26	C1	KME25VB-47 25V CAP-Alum (CE)	304A1115E1470	1	
27					
28	IC1	M38002M2-289SP CPU-MOS	8530183M0005	1	
29	IC502	M51957AFP Analog-BIPLIN -S	7200022N0001	1	
30	IC503	74HC08FP Digital IC-MOS -S	702A1703N0008	1	
31	IC504	74HC126FP Digital IC-MOS -S	702A1703N0126	1	
32	IC505	74HC32FP Digital IC-MOS -S	702A1703N0032	1	
33					
34	CN1	S16B-PH-K-S Connector-PCB	224A3531P0160	1	
35					
36	SW1 ~ SW23, SW34, SW35, SW56 ~ SW64	KSM611B Switch-Push -	2051422P1001	34	
37	OSC	CST6.00MGW121 OSC-Ceramic	381A1048B0003	1	
38					
39		SMRJ-B-7/0.16-7X115 CONN PAR -	238A1079P0001	2	
40		LCD Driver Module Specification	YB4134-1026P001	1	

04S-PCB Assy (1/3)
(42306001)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D501-D508	MA151WK/N202K/2838 D-Signal -C	611A0003N0003	8	
2					
3	R515	CR/RK73K/ERJ/MCRJ100 RES-MET RN -C	3235003J0100	1	
4	R522-R525	CR/RK73K/ERJ/MCRJ101 RES-MET RN -C	3235003J0101	4	
5	R532	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	1	
6	R512, R514, R519 ~ R521, R526	CR/RK73K/ERJ/MCRJ103 RES-MET RN -C	3235003J0103	6	
7	R531	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
8	R502	CR/RK73K/ERJ/MCRJ392 RES-MET RN -C	3235003J0392	1	
9	R510	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	1	
10	R513, R516 ~ R518, R527	CR/RK73K/ERJ/MCRJ473 RES-MET RN -C	3235003J0473	5	
11	R528	CR/RK73K/ERJ/MCRJ474 RES-MET RN -C	3235003J0474	1	
12	R504 ~ R509, R511	RK73K2H/CR1/2-221J RES-MET RN -C	3235103J0221	7	
13	R501	RK73K2H/CR1/2-151J RES-MET RN -C	3235103J0151	1	
14	RM1	MRM-8-103JA RES-Block -	334A3268J0103	1	
15					
16	C537,C539	GRM/UMK/MCH/101CH CAP-Ceramic -C	3033003C0101	2	
17	C505,C538	GRM/UMK/MCH/221CH CAP-Ceramic -C	3033003C0221	2	
18	C533 ~ C535	GRM/UMK/MCH/102B 50V CAP-Ceramic -C	3036003K0102	3	
19	C522,C523	CC2012CH1H471J 50V CAP-Ceramic -C	303A3007C0471	2	
20	C536	CK2012B1H472K 50V CAP-Ceramic -C	303A6008K3472	1	

04S-PCB Assy (2/3)
(42306001)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	C1	16MS5-47M 16V CAP-Alum(CE) - 47uF	304A1046C1470	1	
22	C40	50MS5-0.68M 50V CAP-Alum(CE) -	304A1046H1688	1	
23					
24	IC503	74HC08FP Digital IC-MOS-S	702A1703N0008	1	
25	IC505	74HC32FP Digital IC-MOS-S	702A1703N0032	1	
26	IC504	74HC126FP Digital IC-MOS-S	702A1703N0126	1	
27	IC502	M51957AFP Analog-BIPLIN -S	7200022N0001	1	
28	IC1	M38002M2-289SP CPU-MOS (ROM) -	8530183M0005	1	
29					
30	SW1 ~ SW23, SW34, SW35, SW56 ~ SW64	OR-Switch-Push -P	42376901	34	
31	CN1	S16B-PH-K-S Connector-PCB -	224A3531P0160	1	
32	OSC	CST6.00MGW121 OSC-Ceramic -	381A1048B0003	1	
33	L1	GL3HD8 PHOTO-LED -	650A0128M0030	1	
34	L2 ~ L7, L9	GL3HY8 PHOTO-LED -	650A0228M0010	7	
35					
36		SMRJ-B-7/0.16-7X115 CONN PAR- -	238A1079P0001	2	
37			YB4134-1026P001	1	
38	JP7 ~ JP10, JP13, JP22, JP32, JP34, JP57, JP60, JP61, JP76, JP78, JP90, JP91, JP97 ~ JP99, JP102, JP103	SHORT WIRE	TA-0.6	20	
39	JP5, JP6, JP20, JP33, JP35, JP36, JP44, JP50 ~ JP52, JP59, JP62, JP82, JP83, JP100, JP101, JP105, JP106	SHORT WIRE	TA-0.6	18	

04S-PCB Assy (3/3)
(42306001)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
40	JP28 ~ JP30, JP53, JP70, JP71, JP89	SHORT WIRE	TA-0.6	7	
41	JP3, JP25, JP26, JP38, JP39, JP47, JP58, JP64, JP68, JP69, JP74, JP104	SHORT WIRE	TA-0.6	12	
42	JP4, JP21, JP23, JP24, JP27, JP31, JP40 ~ JP42, JP45, JP46, JP54 ~ JP56, JP63, JP65, JP66, JP72, JP73, JP75, JP77, JP79, JP80, JP92, JP93	SHORT WIRE	TA-0.6	25	
43	JP11, JP12, JP15 ~ JP17, JP67, JP84 ~ JP88	SHORT WIRE	TA-0.6	11	
44	JP14, JP18, JP19, JP37, JP43, JP48, JP49, JP81, JP94 ~ JP96	SHORT WIRE	TA-0.6	11	
45	JP501 ~ JP526	CR/RK73Z/ERJ/MCRJ-0V RES-Zero ohm -C	3255003P0001	26	

EN9-PCB Assy (1/5)
(41144301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	AR1, AR2	SRH412-501MFT ARRESTER- -P	5431004G0501	2	
2					
3	C1	ECQ-E2474KF 250V CAP-Plast flm -	306A2221K5474	1	
4	C3	SME10VB-100BP-0A 10V CAP-Alum(CE) -	304A1122A1101	1	
5	C4	TC04RSME50VB4R7MF50 CAP-Alum(CE) -P	3041010H1479	1	
6	C5, C9	ECQB1473JF3 100V CAP-Plast flm -P	3062002J2473	2	
7	C7	UVP2A2R2 100V CAP-Alum(CE) -P	3041203A2229	1	
8	C8	ECQB1223JF3 100V CAP-Plast flm -P	3062002J2223	1	
9	C10	ECQB1153JF3 100V CAP-Plast flm -P	3062002J2153	1	
10	C20, C21	UVX/SME-16V-47uF 16V CAP-Alum(CE) -P	3041003C1470	2	
11	C502	GRM40B124K25 25V CAP-Ceramic -C	3036001K2124	1	
12	C504	CK2012B1H153K 50V CAP-Ceramic -C	303A6008K3153	1	
13	C505	GRM40CH122J50PT 50V CAP-Ceramic -C	3033001C0122	1	
14	C506, C508	CK2012F1E224Z 25V CAP-Ceramic -C	303A6008Z2224	2	
15	C507	CK2012B1H103K 50V CAP-Ceramic -C	303A6008K3103	1	
16	C509	CC2012SL1H561J 50V CAP-Ceramic -C	303A3007K0561	1	
17	C510	CK2012B1H152K 50V CAP-Ceramic -C	303A6008K3152	1	
18	C511	CC2012CH1H471J 50V CAP-Ceramic -C	303A3007C0471	1	
19	C512	CC2012SL1H181J 50V CAP-Ceramic -C	303A3007K0181	1	
20	C520	CK2012B1H472K 50V CAP-Ceramic -C	303A6008K3472	1	

EN9-PCB Assy (2/5)
(41144301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	C521	CK2012B1H102K 50V CAP-Ceramic -C	303A6008K3102	1	
22					
23	CN1, CN2	52830-6625/TM5RE2VX Connector-Plug-	2233003P0001	2	
24	CN3	2-176837-4 Connector-PCB-	224A4335P0500	1	
25					
26	D1, D2	RD20E-B D-Zener -	613A1231L0252	2	
27	D3	RD6.2F-B D-Zener -	613A2232L0132	1	
28	D4	RD5.1E-B2 D-Zener -	613A1231L0112B	1	
29	D5	E-152 D-Zener -	611A0037L0011	1	
30	D6, D7	RD3.9E-B2 D-Zener -	613A1231L0082B	2	
31	D501	SS100MA80VSCP D-Signal -C	611A0000N0003	1	
32					
33	DB1	S1WBA60 D-Rectifying -	610A1027M0002D	1	
34					
35	IC1	PC123YS/TLP621 PHOTO-Coupler-	6520103M0001	1	
36	IC2 ~ IC4	PS2532-1/TLP627 PHOTO-Coupler-	6523103M0003	3	
37	IC8	PS2525-1/TLP320 PHOTO-Coupler-	6520103M0002	1	
38	IC606, IC607	LB1233M-TE-L ARRAY-TR -B	7600031N0701	2	
39	IC609, IC610	NJM4558M Analog-BIPLIN -S	720A0028N0039	2	
40					

EN9-PCB Assy (3/5)
(41144301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41	L2	LHL08TB-682J Coil-HF -P	3531001J0682	1	
42	L3	LHL08TB-222J Coil-HF -P	3531001J0222	1	
43					
44	Q1	2SD1209K TR-NPN/L-FREQ-	603A1121M0010	1	
45	Q502	2SA1727/2SA1700-TL TR-NPN/L-FREQ-C	6001103N0002	1	
46	Q503	2SA1384-0(TE12L,C) TR-NPN/L-FREQ-C	6001025N0002	1	
47					
48	R503	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
49	R505	RM73B2A303J RES-MET RN -C	323A5003J0303	1	
50	R506	CR/RK73K/ERJ/MCRJ243 RES-MET RN -C	3235003J0243	1	
51	R507	CR/RK73K/ERJ/MCRJ363 RES-MET RN -C	3235003J0363	1	
52	R508, R509, R536	RM73B2A271J RES-MET RN -C	323A5003J0271	3	
53	R510	CR/RK73K/ERJ/MCRJ271 RES-MET RN -C	3235003J0271	1	
54	R512	CR/RK73K/ERJ/MCRJ751 RES-MET RN -C	3235003J0751	1	
55	R517	CR/RK73K/ERJ/MCRJ562 RES-MET RN -C	3235003J0562	1	
56	R518	CR/RK73K/ERJ/MCRJ123 RES-MET RN -C	3235003J0123	1	
57	R521	CR/RK73K/ERJ/MCRJ393 RES-MET RN -C	3235003J0393	1	
58	R525	CR/RK73K/ERJ/MCRJ203 RES-MET RN -C	3235003J0203	1	
59	R526	CR/RK73K/ERJ/MCRJ512 RES-MET RN -C	3235003J0512	1	
60	R528	CR/RK73K/ERJ/MCRJ103 RES-MET RN -C	3235003J0103	1	

EN9-PCB Assy (4/5)
(41144301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
61	R529	CR/RK73K/ERJ/MCRJ104 RES-MET RN -C	3235003J0104	1	
62	R531	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	1	
63	R532 ~ R535	CR/RK73K/ERJ/MCRJ683 RES-MET RN -C	3235003J0683	4	
64	R537 ~ R540	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	4	
65	R542	CR/RK73K/ERJ/MCRJ183 RES-MET RN -C	3235003J0183	1	
66	R543	CR/RK73K/ERJ/MCRJ105 RES-MET RN -C	3235003J0105	1	
67	R601	MCR100JZH J303 RES-MET RN -C	3235040J0303	1	
68	R602	MCR100JZH J5R1 RES-MET RN -C	3235040J0519	1	
69	R603	MCR100JZH J430 RES-MET RN -C	3235040J0430	1	
70	R604	MCR100JZH J220 RES-MET RN -C	3235040J0220	1	
71	R701	MCR100JZH J680 RES-MET RN -C	3235040J0680	1	
72	R801, R802, R815, R816	2125JPW RES-MET RN -C	323A5003P0001	4	
73					
74	RL1 ~ RL3	BA-5W-K/ATXD209 Relay-General -	2601003P1000	3	
75	RL5, RL9	AJQ1349 Relay-General -	2601009P1000	2	
76	RL6	AHY109/SY-5W-K Relay-General -	2601103P1000	1	
77					
78	SW1	BS4-01 Switch-DIP -	206A1100P0400	1	
79					
80	T1	SR-422 TFORMER-LF -	3613000P0001	1	

EN9-PCB Assy (5/5)
(41144301)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
81					
82	TB1	P-97 CONN PAR- -	230A6021P0002	1	
83					
84	VR1	ERZV10D680 SEMICO-Vari -	6320229M0025	1	
85	VR2	ERZV07D220 SEMICO-Vari -	6320229M0011	1	
86					
87	JP1		LY-6314-1-GN	1	L=10mm

EN2-PCB Assy (1/5)
(42310801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	AR1, AR2	SRH412-501MFT ARRESTER- -P	5431004G0501	2	
2					
3	C1	ECQ-E2474KF 250V CAP-Plast flm -	306A2221K5474	1	
4	C3	SME10VB-100BP-OA 10V CAP-Alum(CE) -	304A1122A1101	1	
5	C4	TC04RSME50VB4R7MF50 CAP-Alum(CE) -P	3041010H1479	1	
6	C5, C9	ECQB1473JF3 100V CAP-Plast flm -P	3062002J2473	2	
7	C7	UVP2A2R2 100V CAP-Alum(CE) -P	3041203A2229	1	
8	C8	ECQB1223JF3 100V CAP-Plast flm -P	3062002J2223	1	
9	C10	ECQB1153JF3 100V CAP-Plast flm -P	3062002J2153	1	
10	C20, C21	UVX/SME-16V-47uF 16V CAP-Alum(CE) -P	3041003C1470	2	
11	C502	GRM21BB11E124KA01L CAP-Ceramic -C	3036001K2124	1	
12	C504	CK2012B1H153K 50V CAP-Ceramic -C	303A6008K3153	1	
13	C505	GRM2192CH122JD01D CAP-Ceramic -C	3033001C0122	1	
14	C506, C508	CK2012F1E224Z 25V CAP-Ceramic -C	303A6008Z2224	2	
15	C507	GRM/UMK/MCH/332B 50V CAP-Ceramic -C	3036003K0332	1	
16	C521	GRM/UMK/MCH/102B 50V CAP-Ceramic -C	3036003K0102	1	
17					
18	CN1, CN2	52830-6625/TM5RE2VX Connector-Plug-	2233003P0001	1	
19	CN3	2-176837-4 Connector-PCB -	224A4335P0500	1	
20					

EN2-PCB Assy (2/5)
(42310801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	D1, D2	RD20E-B D-Zener -	613A1231L0252	2	
22	D3	RD6.2F-B D-Zener -	613A2232L0132	1	
23	D4	RD5.1E-B2 D-Zener -	613A1231L0112B	1	
24	D5	E-152 D-Signal -	611A0037L0011	1	
25	D6, D7	RD3.9E-B2 D-Zener -	613A1231L0082B	2	
26	D501	SS100MA80VSCP D-Signal -C	611A0000N0003	1	
27					
28	DB1	S1WBA60 D-Rectifying -	610A1027M0002D	1	
29					
30	IC1	TLP621 PHOTO-Coupler -	6520125M0003	1	
31	IC2, IC3	PS2532-1/TLP627 PHOTO-Coupler -	6523103M0003	2	
32	IC8	PS2525-1/TLP320 PHOTO-Coupler -	6520103M0002	1	
33	IC606, IC607	LB1233M/TD62003AF ARRAY-TR -B	7600003N0701	2	
34	IC610	NJM4558M Analog-BIPLIN -S	720A0028N0039	1	
35					
36	L2	LHL08TB-682J Coil-HF -P	3531001J0682	1	
37	L3	LHL08TB-222J Coil-HF -P	3531001J0222	1	
38					
39	Q1	2SD1209K TR-NPN/L-FREQ -	603A1121M0010	1	
40	Q502	2SA1727/2SA1700-TL TR-PNP/H FREQ -C	6001103N0002	1	

EN2-PCB Assy (3/5)
(42310801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41	Q503	2SA1384-O(TE12R,C) TR-PNP/H FREQ -C	6001025N0002	1	
42					
43	R503	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
44	R505	RM73B2A303J RES-MET RN -C	323A5003J0303	1	
45	R506	CR/RK73H/ERJ/MCRF243 RES-MET RN -C	3235003F0243	1	
46	R507	CR/RK73K/ERJ/MCRJ363 RES-MET RN -C	3235003J0363	1	
47	R508, R509	RM73B2A271J RES-MET RN -C	323A5003J0271	2	
48	R510	CR/RK73H/ERJ/MCRF271 RES-MET RN -C	3235003F0271	1	
49	R512	CR/RK73H/ERJ/MCRF751 RES-MET RN -C	3235003F0751	1	
50	R517	CR/RK73K/ERJ/MCRJ562 RES-MET RN -C	3235003J0562	1	
51	R518	CR/RK73K/ERJ/MCRJ123 RES-MET RN -C	3235003J0123	1	
52	R521	CR/RK73K/ERJ/MCRJ393 RES-MET RN -C	3235003J0393	1	
53	R525	CR/RK73K/ERJ/MCRJ203 RES-MET RN -C	3235003J0203	1	
54	R526	CR/RK73K/ERJ/MCRJ512 RES-MET RN -C	3235003J0512	1	
55	R528	CR/RK73H/ERJ/MCRF912 RES-MET RN -C	3235003F0912	1	
56	R529	CR/RK73K/ERJ/MCRJ104 RES-MET RN -C	3235003J0104	1	
57	R531	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	1	
58	R537 ~ R540	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	4	
59	R542	CR/RK73K/ERJ/MCRJ183 RES-MET RN -C	3235003J0183	1	
60	R543	CR/RK73K/ERJ/MCRJ105 RES-MET RN -C	3235003J0105	1	

EN2-PCB Assy (4/5)
(42310801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
61	R601	MCR100JZH J303 RES-MET RN -C	3235040J0303	1	
62	R602	MCR100JZH J5R1 RES-MET RN -C	3235040J0519	1	
63	R603	MCR100JZH J430 RES-MET RN -C	3235040J0430	1	
64	R604	MCR100JZH J220 RES-MET RN -C	3235040J0220	1	
65	R701	MCR100JZH J680 RES-MET RN -C	3235040J0680	1	
66	R815, R816	2125JPW RES-MET RN -C	323A5003P0001	2	
67					
68	RL1 ~ RL3	BA-5W-K/ATXD209/EC2 Relay-General -	2601003P1000	3	
69	RL5, RL9	OR-AJQ1349/VE-5HS-K	41824301	2	
70	RL6	AHY109/SY-5W-K Relay-General -	2601103P1000	1	
71					
72	SW1	OR-DIPSWITCH	42321001	1	
73					
74	T1	OR-MST001AR/SR-422	41883701	1	
75					
76	VR1	ERZV10D680 SEMICO-Vari -	6320229M0025	1	
77	VR2	ERZV07D220 SEMICO-Vari -	6320229M0011	1	
78					
79	J501 ~ J506, J511 ~ J513	CR/RK73Z/ERJ/MCRJ-0V RES-Zero ohm -C	3255003P0001	9	
80	J1, J7, J11, J24, J43, J70, S7	SHORT WIRE	TA-0.6	7	

EN2-PCB Assy (5/5)
(42310801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
81	J8, J20, J26 ~ J28, J34, J36, J39, J48, J49	SHORT WIRE	TA-0.6	10	
82	J5, J6, J9, J10, J12, J13, J15, J18, J19, J21, J23, J25, J29, J31, J32, J35, J41, J46	SHORT WIRE	TA-0.6	18	
83	J17, J22, J33, J38, J45	SHORT WIRE	TA-0.6	5	
84	J2, J4, J14, J30, J37, J44, J47	SHORT WIRE	TA-0.6	7	
85	J3	SHORT WIRE	TA-0.6	1	
86	J16	SHORT WIRE	TA-0.6	1	
87	J40, J42	SHORT WIRE	TA-0.6	2	

INU-PCB Assy (1/3)
(41144501)-US

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	AR1, AR2	SRH412-501MFT ARRESTER- -P	5431004G0501	2	
2					
3	C1	ECQ-E2474KF 250V CAP-Plast flm -	306A2221K5474	1	
4	C3	SME10VB-100BP-0A 10V CAP-Alum(CE) -	304A1122A1101	1	
5	C4	UVR1H2R2 50V CAP-Alum(CE) -P	3041003H1229	1	
6	C5	ECQB1473JF3 100V CAP-Plast flm -P	3062002J2473	1	
7	C7	UVP2A2R2 100V CAP-Alum(CE) -P	3041203A2229	1	
8	C501	CK2012R1H223K 50V CAP-Ceramic -C	303A6008K3223	1	
9					
10	CN1, CN2	52830-6625/TM5RE2VX Connector-Plug -	2233003P0001	2	
11	CN3	2-176837-4 Connector-PCB -	224A4335P0500	1	
12					
13	D1, D2	RD20E-B D-Zener -	613A1231L0252	2	
14	D3	RD12E-B2 D-Zener -	613A1231L0202B	1	
15	D501	SS100MA80VSCP D-Signal -C	611A0000N0003	1	
16					
17	DB1	S1WBA60 D-Rectifying -	610A1027M0002D	1	
18					
19	IC1	PC123YS/TLP621 PHOTO-Coupler -	6520103M0001	1	
20	IC2, IC3	PS2532-1/TLP627 PHOTO-Coupler -	6523103M0003	2	

INU-PCB Assy (2/3)
(41144501)-US

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	IC5	PS2525-1/TLP320 PHOTO-Coupler -	6520103M0002	1	
22	IC606	LB1233M-TE-L ARRAY-TR -B	7600031N0701	1	
23					
24	Q1	2SD1209K TR-NPN/L-FREQ -	603A1121M0010	1	
25	Q501	DTC323TK/RN1444-B TR-NPN/H-FREQ -C	6021003N0003	1	
26					
27	R502	CR/RK73K/ERJ/MCRJ222 RES-MET RN -C	3235003J0222	1	
28	R503	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
29	R505	RM73B2A303J RES-MET RN -C	323A5003J0303	1	
30	R506, R521	CR/RK73K/ERJ/MCRJ203 RES-MET RN -C	3235003J0203	2	
31	R507	CR/RK73K/ERJ/MCRJ363 RES-MET RN -C	3235003J0363	1	
32	R508, R509	RM73B2A271J RES-MET RN -C	323A5003J0271	2	
33	R511	CR/RK73H/ERJ/MCRF301 RES-MET RN -C	3235003F0301	1	
34	R514	CR/RK73H/ERJ/MCRF201 RES-MET RN -C	3235003F0201	1	
35	R517	CR/RK73H/ERJ/MCRF752 RES-MET RN -C	3235003F0752	1	
36	R518	CR/RK73H/ERJ/MCRF133 RES-MET RN -C	3235003F0133	1	
37	R601	MCR100JZH J303 RES-MET RN -C	3235040J0303	1	
38	R602	MCR100JZH J680 RES-MET RN -C	3235040J0680	1	
39	R801, R802, R815, R816	2125JPW RES-MET RN -C	323A5003P0001	4	
40					

INU-PCB Assy (3/3)
(41144501)-US

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41	RL1 ~ RL3, RL5	AJQ1349 Relay-General -	2601009P1000	4	
42	RL6	AHY109/SY-5W-K Relay-General -	2601103P1000	1	
43					
44	T1	SR-422 TFORMER-LF -	3613000P0001	1	
45					
46	TB1	P-97 CONN PAR- -	230A6021P0002	1	
47					
48	VR1	ERZV10D680 SEMICO-Vari -	6320229M0025	1	
49	VR2	ERZV07D220 SEMICO-Vari -	6320229M0011	1	
50					
51	S1 ~ S32	SHORT WIRE	TA-0.6	32	L=55mm

INU-PCB Assy (1/4)
(41144502)-INT

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	AR1, AR2	SRH412-501MFT ARRESTER- -P	5431004G0501	2	
2					
3	C1, C101	ECQ-E2474KF 250V CAP-Plast flm -	306A2221K5474	2	
4	C3	SME10VB-100BP-0A 10V CAP-Alum(CE) -	304A1122A1101	1	
5	C4	UVR1H2R2 50V CAP-Alum(CE) -P	3041003H1229	1	
6	C5	ECQB1473JF3 100V CAP-Plast flm -P	3062002J2473	1	
7	C7	UVP2A2R2 100V CAP-Alum(CE) -P	3041203A2229	1	
8	C501	CK2012R1H223K 50V CAP-Ceramic -C	303A6008K3223	1	
9	C502	GRM40B683K50 50V CAP-Ceramic -C	3036001K3683	1	
10	C513	GRM40B154K25 25V CAP-Ceramic -C	3036001K2154	1	
11					
12	CN1, CN2	52830-6625/TM5RE2VX Connector-Plug -	2233003P0001	2	
13	CN3	2-176837-4 Connector-PCB -	224A4335P0500	1	
14	CN15, CN25, CN35	IMSA9202B-1-06Z013GF Connector-PCB -	224A4082P0060	3	
15					
16	D1, D2	RD20E-B D-Zener -	613A1231L0252	2	
17	D3	RD12E-B2 D-Zener -	613A1231L0202B	1	
18	D501	SS100MA80VSCP D-Signal -C	611A0000N0003	1	
19					
20	DB1	S1WBA60 D-Rectifying -	610A1027M0002D	1	

INU-PCB Assy (2/4)
(41144502)-INT

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21					
22	IC1	PC123YS/TLP621 PHOTO-Coupler -	6520103M0001	1	
23	IC2, IC3	PS2532-1/TLP627 PHOTO-Coupler -	6523103M0003	2	
24	IC5	PS2525-1/TLP320 PHOTO-Coupler -	6520103M0002	1	
25	IC606	LB1233M-TE-L ARRAY-TR -B	7600031N0701	1	
26					
27	Q1	2SD1209K TR-NPN/L-FREQ -	603A1121M0010	1	
28	Q501	DTC323TK/RN1444-B TR-NPN/H-FREQ -C	6021003N0003	1	
29					
30	R502	CR/RK73K/ERJ/MCRJ222 RES-MET RN -C	3235003J0222	1	
31	R503	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
32	R505	RM73B2A303J RES-MET RN -C	323A5003J0303	1	
33	R506, R521	CR/RK73K/ERJ/MCRJ203 RES-MET RN -C	3235003J0203	2	
34	R507	CR/RK73K/ERJ/MCRJ363 RES-MET RN -C	3235003J0363	1	
35	R508, R509	RM73B2A271J RES-MET RN -C	323A5003J0271	2	
36	R510	CR/RK73H/ERJ/MCRF201 RES-MET RN -C	3235003F0201	1	
37	R511, R513	CR/RK73H/ERJ/MCRF301 RES-MET RN -C	3235003F0301	2	
38	R512	CR/RK73H/ERJ/MCRF112 RES-MET RN -C	3235003F0112	1	
39	R515, R543	CR/RK73H/ERJ/MCRF682 RES-MET RN -C	3235003F0682	2	
40	R516	CR/RK73H/ERJ/MCRF752 RES-MET RN -C	3235003F0752	1	

INU-PCB Assy (3/4)
(41144502)-INT

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41	R519	CR/RK73H/ERJ/MCRF153 RES-MET RN -C	3235003F0153	1	
42	R520	CR/RK73H/ERJ/MCRF223 RES-MET RN -C	3235003F0223	1	
43	R544	CR/RK73H/ERJ/MCRF271 RES-MET RN -C	3235003F0271	1	
44	R545	CR/RK73H/ERJ/MCRF681 RES-MET RN -C	3235003F0681	1	
45	R546	CR/RK73H/ERJ/MCRF183 RES-MET RN -C	3235003F0183	1	
46	R601	MCR100JZH J303 RES-MET RN -C	3235040J0303	1	
47	R602	MCR100JZH J430 RES-MET RN -C	3235040J0430	1	
48	R701	MCR100JZH J103 RES-MET RN -C	3235040J0103	1	
49	R801, R802, R815, R816	2125JPW RES-MET RN -C	323A5003P0001	4	
50					
51	RL1 ~ RL3, RL5	AJQ1349 Relay-General -	2601009P1000	4	
52	RL6	AHY109/SY-5W-K Relay-General -	2601103P1000	1	
53					
54	SW1	BS2-01 Switch-DIP	206A1100P0200	1	
55					
56	T1	SR-422 TFORMER-LF -	3613000P0001	1	
57					
58	TB1	P-97 CONN PAR- -	230A6021P0002	1	
59					
60	VR1	ERZV10D680 SEMICO-Vari -	6320229M0025	1	

INU-PCB Assy (4/4)
(41144502)-INT

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
61	VR2	ERZV07D220 SEMICO-Vari -	6320229M0011	1	
62					
63	S1 ~ S32	SHORT WIRE	TA-0.6	32	L=55mm

MPW1546 (120V)-PCB Assy (1/4)
(SIPS1303)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
1	D11 ~ D14, D131	DIODE ERA15-06	5	FUJI ELECTRIC CO., LTD.
2	D101	DIODE YG911S2	1	FUJI ELECTRIC CO., LTD.
3	D102	DIODE YG811S06R	1	FUJI ELECTRIC CO., LTD.
4	D4, D7	DIODE 1SS133	2	ROHM CO., LTD.
5	D103	DIODE ERA22-06	1	FUJI ELECTRIC CO., LTD.
6	D105, D106	ZENER DIODE HZ-24	2	HITACHI LTD.
7	D8	ZENER DIODE HZS9	1	HITACHI LTD.
8	D2, D6			NOT MOUNTED
9				
10	TRA1	TRIODE SEMICONDUCTOR SWITCH SM12JZ47	1	TOSHIBA CORP. INTERNATIONAL OPERATIONS-Electronic Components
11				
12	Q2	TRANSISTOR 2SC1741AS	1	ROHM CO., LTD. OPERATIONS-Electronic Components
13	Q1	FET 2SK2972	1	TOSHIBA CORP. INTERNATIONAL OPERATIONS-Electronic Components
14				
15	IC102	INTEGRATED CIRCUIT TA78M24S	1	TOSHIBA CORP. INTERNATIONAL OPERATIONS-Electronic Components
16	IC151	INTEGRATED CIRCUIT TA76431S	1	TOSHIBA CORP. INTERNATIONAL OPERATIONS-Electronic Components
17				
18	PC4	OPTICAL ISOLATER TLP561G	1	TOSHIBA CORP. INTERNATIONAL
19	PC1	OPTICAL ISOLATER PC817	1	SHARP Corp. Electronic Components Group OPERATIONS-Electronic Components
20				

MPW1546 (120V)-PCB Assy (2/4)
(SIPS1303)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
21	Z1	TRANSIENT VOLTAGE EN241 SURGE SUPPRESSOR	1	FUJI ELECTRIC CO., LTD.
22	Z20			NOT MOUNTED
23				
24	NTC1	NTC THERMISTOR NTH7D4R0	1	MURATA MFG CO., LTD.
25				
26	R19	RESISTOR 1/4W 10Ω	1	
27	R21	RESISTOR 1/4W 22Ω	1	
28	R9	RESISTOR 1/4W 68Ω	1	
29	R24	RESISTOR 1/4W 150Ω	1	
30	R114, R150	RESISTOR 1/4W 220Ω	2	
31	R6	RESISTOR 1/4W 330Ω	1	
32	R17	RESISTOR 1/4W 820Ω	1	
33	R151	RESISTOR 1/4W 1KΩ	1	
34	R120	RESISTOR 1/4W 1.8Ω	1	
35	R10	RESISTOR 1/4W 3.9KΩ	1	
36	R152	RESISTOR 1/4W 4.7KΩ	1	
37	R11	RESISTOR 1/4W 5.6KΩ	1	
38	R153	RESISTOR 1/4W 6.8KΩ	1	
39	R154	RESISTOR 1/4W 8.2KΩ	1	
40	R117, R118	RESISTOR 1/4W 15KΩ	2	

MPW1546 (120V)-PCB Assy (3/4)
(SIPS1303)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
41	R13	RESISTOR 1/4W 18KΩ	1	
42	R15	RESISTOR 1/4W 22KΩ	1	
43	R8	RESISTOR 1/4W 33KΩ	1	
44	R3	RESISTOR 1/4W 390KΩ	1	
45	R22	RESISTOR 1/6W 10Ω	1	
46	R4, R7, R12, R51, R52, R121, R160			NOT MOUNTED
47				
48	VR151	RESISTOR 1/10W 5KΩ	1	
49				
50	C11, C13	CERAMIC CAPACITOR 50V 100pF	2	MURATA MFG. CO., LTD.
51	C150	CERAMIC CAPACITOR 50V 0.1μF	1	MURATA MFG. CO., LTD.
52	C8	CERAMIC CAPACITOR 1KV 220pF	1	MURATA MFG. CO., LTD.
53	C7	CERAMIC CAPACITOR VA3 10000pF	1	MURATA MFG. CO., LTD.
54	C1	FILM CAPACITOR AC250V 0.1μF (RE)	1	OKAYA ELECTRIC INDUSTRIES CO., LTD.
55	C9, C10	FILM CAPACITOR 50V 4700pF	2	
56	C112, C130	ELECTROLYTIC CAPACITOR 35V 82μF	2	
57	C109	ELECTROLYTIC CAPACITOR 35V 220μF	1	
58	C107	ELECTROLYTIC CAPACITOR 35V 560μF	1	
59	C122	ELECTROLYTIC CAPACITOR 50V 56μF	1	
60	C105	ELECTROLYTIC CAPACITOR 50V 180μF	1	

MPW1546 (120V)-PCB Assy (4/4)
(SIPS1303)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
61	C5	ELECTROLYTIC CAPACITOR 200V 220µF	1	
62	C4, C15, C20, C21, C101, C102, C122, C151			NOT MOUNTED
63				
64	L1	INDUCOTR ELF15N006	1	MATSUSHITA ELECTRIC INDUSTRIAL CO.,LTD
65	L101	INDUCOTR 150S	1	MURATA MFG. CO., LTD.
66				
67	T1	TRANSFORMER 2C45	1	MURATA MFG. CO., LTD.
68				
69	BEA1	FERRITE BEADS	1	MURATA MFG. CO., LTD.
70	BEA102, BEA103	FERRITE BEADS	2	MURATA MFG. CO., LTD.
71	BEA101			NOT MOUNTED
72				
73	F1	FUSE AC125V 8.0A (237)	1	LITTELFUSE INC.
74	F102			NOT MOUNTED
75				
76	CN1	CONNECTOR 5277-02A	1	MOLEX INC.
77	CN101	CONNECTOR S12B-XH-A-1	1	JAPAN SOLDERLESS TERMINAL MFG. CO., LTD.
78	CN2	CONNECTOR B2P3-VH	1	JAPAN SOLDERLESS TERMINAL MFG. CO., LTD.

MPW1446 (230V)-PCB Assy (1/5)
(SIPS1302)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
1	C11 ~ C14, C131	DIODE ERA15-06	5	FUJI ELECTRIC CO., LTD.
2	D102	DIODE YG811S06R	1	FUJI ELECTRIC CO., LTD.
3	D101	DIODE YG911S2R	1	FUJI ELECTRIC CO., LTD.
4	D6, D7, D107 ~ D110	DIODE 1SS133	6	ROHM CO., LTD.
5	D103	DIODE ERA22-06	1	FUJI ELECTRIC CO., LTD.
6	D105, D106	ZENER DIODE HZ-24	2	HITACHI LTD.
7	D8	ZENER DIODE HZS9	1	HITACHI LTD.
8	D3	ZENER DIODE RD120	1	HITACHI LTD.
9	D2			NOT MOUNTED
10				
11	TRA1	TRIODE SEMICONDUCTOR SWITCH SM12JZ47	1	TOSHIBA CORP. INTERNATIONAL OPERATIONS-Electronic Components
12				
13	Q101	TRANSISTOR 2SJ303	1	ROHM CO., LTD.
14	Q102	TRANSISTOR 2SA1757	1	ROHM CO., LTD.
15	Q105, Q106	TRANSISTOR 2SA933S	2	ROHM CO., LTD.
16	Q104, Q107	TRANSISTOR 2SC1740S	2	ROHM CO., LTD.
17	Q103	TRANSISTOR 2SD1858	1	ROHM CO., LTD.
18	Q1	FET 2SK2717	1	TOSHIBA CORP. INTERNATIONAL OPERATIONS-Electronic Components
19				
20	IC102	INTEGRATED CIRCUIT TA78M24S	1	TOSHIBA CORP. INTERNATIONAL OPERATIONS-Electronic Components

MPW1446 (230V)-PCB Assy (2/5)
(SIPS1302)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
21	IC151	INTEGRATED CIRCUIT TA76431	1	TOSHIBA CORP. INTERNATIONAL OPERATIONS-Electronic Components
22	IC1	INTEGRATED CIRCUIT H8D2877	1	MURATA MFG CO., LTD.
23				
24	PC1, PC2	OPTICAL ISOLATER PC123	2	SHARP Corp. Electronic Components Group
25	PC4	OPTICAL ISOLATER S21ME6	1	SHARP Corp. Electronic Components Group
26				
27	Z1	TRANSIENT VOLTAGE ENC471 SURGE SUPPRESSOR	1	FUJI ELECTRIC CO., LTD.
28				
29	NTC1	NTC THERMISTOR NTH7D8R0	1	MURATA MFG CO., LTD.
30				
31	R19	RESISTOR 1/4W 10Ω	1	
32	R21	RESISTOR 1/4W 22Ω	1	
33	R9	RESISTOR 1/4W 68Ω	1	
34	R111, R159	RESISTOR 1/4W 100Ω	2	
35	R24	RESISTOR 1/4W 150Ω	1	
36	R114, R150	RESISTOR 1/4W 220Ω	2	
37	R6	RESISTOR 1/4W 270Ω	1	
38	R7	RESISTOR 1/4W 330Ω	1	
39	R151	RESISTOR 1/4W 1KΩ	1	
40	R113, R115	RESISTOR 1/4W 2.2KΩ	2	

MPW1446 (230V)-PCB Assy (3/5)
(SIPS1302)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
41	R107	RESISTOR 1/4W 3.3KΩ	1	
42	R101, R109, R152, R155 ~ R158	RESISTOR 1/4W 4.7KΩ	7	
43				
44	R102, R153	RESISTOR 1/4W 6.8KΩ	2	
45	R154	RESISTOR 1/4W 8.2KΩ	1	
46	R108, R110, R116	RESISTOR 1/4W 10KΩ	3	
47	R11, R12	RESISTOR 1/4W 12KΩ	2	
48				
49	R117, R118	RESISTOR 1/4W 15KΩ	2	
50	R13	RESISTOR 1/4W 47KΩ	1	
51	R15	RESISTOR 1/4W 22KΩ	1	
52	R122	RESISTOR 1/4W 100KΩ	1	
53	R103	RESISTOR 1/4W 220KΩ	1	
54	R3	RESISTOR 1/4W 750KΩ	1	
55	R104	RESISTOR 1/4W 1MΩ	1	
56	R2, R51, R52	RESISTOR 1/4W 2.2MΩ	3	
57	R22	RESISTOR 1/6W 10Ω	1	
58	R4, R12, R112, R160			NOT MOUNTED
59				
60	VR151	RESISTOR 1/10W 5KΩ	1	

MPW1446 (230V)-PCB Assy (4/5)
(SIPS1302)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
61				
62	C9, C13	CERAMIC CAPACITOR 50V 100pF	2	MURATA MFG CO., LTD.
63	C104, C150	CERAMIC CAPACITOR 50V 0.1µF	2	MURATA MFG CO., LTD.
64	C7, C15	CERAMIC CAPACITOR VA3 3300pF	2	MURATA MFG CO., LTD.
65	C8	CERAMIC CAPACITOR 2KV 47pF	1	MURATA MFG CO., LTD.
66	C1	FILM CAPACITOR AC275V 0.22µF (RE)	1	OKAYA ELECTRIC INDUSTRIES CO., LTD.
67	C10	FILM CAPACITOR 50V 0.01µF	1	
68	C107	ELECTROLYTIC CAPACITOR 35V 560µF	1	
69	C111, C130	ELECTROLYTIC CAPACITOR 35V 82µF	2	
70	C109	ELECTROLYTIC CAPACITOR 35V 220µF	1	
71	C105	ELECTROLYTIC CAPACITOR 50V 180µF	1	
72	C5	ELECTROLYTIC CAPACITOR 400V 68µF	1	
73	C4, C20, C21, C101, C102, C112, C151			NOT MOUNTED
74				
75	L1	INDUCOTR ELF18D290C	1	MATSUSHITA ELECTRIC INDUSTRIAL CO.,LTD
76	L101	INDUCOTR 150S	1	MURATA MFG. CO., LTD.
77				
78	T1	TRANSFORMER 2C44	1	MURATA MFG. CO., LTD.
79				
80	BEA1	FERRITE BEADS	1	MURATA MFG. CO., LTD.

MPW1446 (230V)-PCB Assy (5/5)
(SIPS1302)

REF. NO.	SYMBOL	TYPE/NAME	Q'TY	REMARKS
81	BEA101	FERRITE BEADS	1	MURATA MFG. CO., LTD.
82				
83	F102	FUSE AC125V 2.0A (19396)	1	WICKMANN-WERKE GMBH
84	F103	FUSE AC250V 0.2A (19396)	1	WICKMANN-WERKE GMBH
85	F1	FUSE AC250V T4.0AH (215)	1	LITTELFUSE INC.
86				
87	CN1	CONNECTOR 5277-02A	1	MOLEX INC.
88	CN101	CONNECTOR S12B-XH-A-1	1	JAPAN SOLDERLESS TERMINAL MFG. CO., LTD.
89	CN2	CONNECTOR B2P3-VH	1	JAPAN SOLDERLESS TERMINAL MFG. CO., LTD.

P2H-PCB Assy (1/3)
(40599101)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D60, D61, D68, D69	1S953/1S2075K/1S2473 D-Signal -	611A0003L0001	4	
2	D63, D67, D72, D74	OR-DHM/ESJA/SHV-06	40681301	4	
3	D51, D55 ~ D59, D62, D71, D84	EU02A/RL105F-F D-Rectifying -Q	6100003M0001	9	
4	D52	1ZB300-Y-Z D-Zener -	613A2003M0001	1	
5	D65, D66	1ZB390 D-Zener -	613A2258M0350	2	
6	D76	RD22E-B2 D-Zener -	613A1231L0262B	1	
7	D82	RD27E-B1 D-Zener -	613A1231L0282A	1	
8	D87	RD200E-B D-Zener -	613A1231L0522	1	
9	D85	1ZB270-Y/Z (TPA2) D-Zener -Q	6132003M0001	1	
10				01	
11	R234	RD1/4Y33ΩJ RES-Carbon flm -	321A1421J0330	1	
12	R47, R48	RD1/4Y130ΩJ RES-Carbon flm -	321A1421J0131	2	
13	R102, R116, R121	RD1/4Y330ΩJ RES-Carbon flm -	321A1421J0331	3	
14	R103, R123	RD1/4Y1KΩJ RES-Carbon flm -	321A1421J0102	2	
15	R118	RD1/4Y4.7KΩJ RES-Carbon flm -	321A1421J0472	1	
16	R122, R124, R229	RD1/4Y5.1KΩJ RES-Carbon flm -	321A1421J0512	3	
17	R105	RD1/4Y24KΩJ RES-Carbon flm -	321A1421J0243	1	
18	R104	RD1/4Y75KΩJ RES-Carbon flm -	321A1421J0753	1	
19	R235	MRH30MK/HV-22-30MK RES-MET solid -	3263103K0306	1	
20	R228, R233	RD1/4Y1MΩJ RES-Carbon flm -	321A1421J0105	2	

P2H-PCB Assy (2/3)
(40599101)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	R100	RD1/4Y3MΩJ RES-Carbon flm -	321A1421J0305	1	
22	R115	RNL1/4C3F576KΩ RES-MET RN -	323A1222F5763	1	
23	R114, R236	MRH100MK/HV-38-100MK RES-MET solid-	3263103K0107	2	
24	R237	RD1/4Y5.1ΩJ RES-Carbon flm -	321A1421J0519	1	
25	R238	RD16UJ1.5KΩ RES-Carbon flm -	3213420J0152	1	
26	C105, C107, C119, C240, C241	HNY5P/DE07-1KV-471K CAP-Ceramic -P	3024003K7471	5	
27	C113, C114, C117	DE07/HCYB3F471 CAP-Ceramic -Z	3024203K2471	3	
28	C112	DE1010B471K6K 6KV CAP-Ceramic -	302A4028K4471	1	
29	C101, C102, C106	HLY5P/DD05-500V-471K CAP-Ceramic -P	3024003K6471	3	
30	C103, C104, C108, C110, C111, C115, C237, C251, C300, C301, C311	MLRD/FK16Y5V1H104Z CAP-Ceramic -N	3034003Z3104	11	
31	C116	MLRD/FK16Y5V1H473Z CAP-Ceramic -N	3034003Z3473	1	
32	C118	MY2A/CQMF/ECQP-103J CAP-Plast flm -P	3064003J2103	1	
33	C302, C310	CQMF/MY2A/ECQP-472J CAP-Plast flm -P	3064003J2472	2	
34	C236	UVX/SME-63V-10μF 63V CAP-Alum (CE)-P	3041003J1100	1	
35					
36	Q11, Q13	BCR1AM-12/MAC97-008 THY-Bi/Dir -	622A0003M0001	2	
37	Q12	CR04AM-12 THY-Gate -	620A0022M0008	1	
38	Q21 ~ Q23	2SC1815-Y TR-NPN/H-FREQ -	602A1025M0006Y	3	
39	Q15 ~ Q17	2SC2235-Y TR-NPN/H-FREQ -	602A1125M0039Y	3	
40	Q10	2SC2752 TR-NPN/H-FREQ -	602A1223M0039	1	

P2H-PCB Assy (3/3)
(40599101)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41					
42	L10	C-14576/SA-8506183 Coil-Choke -	3502003P0102	1	
43					
44	T2 ~ T4	HIGH VOLTAGE TRANSFORMER	YB4049-7078P003	3	
45					
46	PS1 ~ PS4	RPI-574/#9568 PHOTO-Coupler -	652A0103M0002	4	
47					
48	CVSW	SM05S/SS5GL13 Switch-Micro -	2071003P0001	1	
49					
50	LED	SEL3910D/204AD PHOTO-LED -	6500003M0001	1	
51	CN1	23FE-BT-VK-N Connector-PCB -	224A4134P0230	1	
52	CN2	53254-0210 Connector-PCB	224A4407P0020	1	
53					
54	J1, J2, J40	SHORT WIRE	TA-0.6	3	L=55mm P=5.0
55	J3, J4, J7 ~ J12	SHORT WIRE	TA-0.6	8	L=55mm P=7.5
56	J13 ~ J21, J23 ~ J27, J29 ~ J36	SHORT WIRE	TA-0.6	22	L=55mm P=10.0
57	J22	SHORT WIRE	TA-0.6	1	L=55mm P=12.5

P6L-PCB Assy (1/1)
(40386701)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D1, D8	EU02A/RL105F-F D-Rectifying -Q	6100003M0001	2	
2	D2, D3, D9	OR-DHM/ESJA/SHV-06	40681301	3	
3	D4	ERZV05D391 SEMICO-Vari -	6320229M0003	1	
4	D5 ~ D7	ERZ/JVR-05N471 SEMICO-Vari -	6320003M0001	3	
5					
6	R1, R4 ~ R6	RD16U/VTJ5.1KΩ RES-Carbon flm -	3213420J0512	4	
7	R2	RD1/4Y1MΩJ RES-Carbon flm -	321A1421J0105	1	
8	R3	MRH100MK/HV-38-100MK RES-MET solid-	3263103K0107	1	
9					
10	C1, C4	MY2A/CQMF-100V-103J CAP-Plast flm -P	3064003J2103	2	
11	C2, C3, C5	DE07/HCYB3F471 CAP-Ceramic -Z	3024203K2471	3	
12	C6	UVX/SME-63V-10µF 63V CAP-Alum (CE)-P	3041003J1100	1	
13					
14	S1	SHORT WIRE	TA-0.6	1	L=55mm P=10.16mm
15					
16	Q1, Q2	2SC2235-Y TR-NPN/H-FREQ	602A1125M0039Y	2	
17					
18	T1, T2	HIGH VOLTAGE TRANSFORMER	YB4049-7078P003	2	
19					
20	CN1	06FE-ST-VK-N Connector-PCB	2244101P0060	1	
21	CN2	RT-01T-1.0B Connector-PCB	2247000P0001	1	

G4N-PCB Assy (1/4)
(41033701)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	CN1	2-176837-4 Connector-PCB -	224A4335P0500	1	
2	CN2	TM5RJ-88 Connector-Plug -	2233010P0001	1	
3					
4	C3, C6	KMG10VB-470M-FC 10V CAP-Alum(CE) -	304A1180A1471	2	
5	C4	UVX/SME25VB-22-0A CAP-Alum(CE) -P	3041103E1220	1	
6	C500, C501	GRM/UMK/MCH/050CH CAP-Ceramic -C 5pF	3033003C0050	2	
7	C538	GRM/UMK/MCH/220CH CAP-Ceramic -C	3033003C0220	1	
8	C539	GRM/UMK/MCH/270CH CAP-Ceramic -C	3033003C0270	1	
9	C593, C594	GRM/UMK/MCH/470CH CAP-Ceramic -C	3033003C0470	2	
10	C182, C183, C281, C577, C580, C585~588	GRM/UMK/MCH/680CH CAP-Ceramic -C	3033003C0680	9	
	C503, C504, C508, C509, C513, C514, C530, C537, C540, C541, C558, C561, C567, C568, C595, C596	GRM/UMK/MCH/102B 50V CAP-Ceramic -C	3036003K0102	16	
11	C571, C592	GRM/UMK/MCH/561B 50V CAP-Ceramic -C	3036003K0561	2	
12	C591	GRM/UMK/MCH/332B 50V CAP-Ceramic -C	3036003K0332	1	
13	C552, C572	GRM/LMK/MCH/105Z 10V CAP-Ceramic -C	3036003Z0105	2	
14	C117~C125, C156, C502, C505~C507, C510, C515, C516, C526~C529, C533, C535, C536, C542~C546, C548~C551, C553, C554, C559, C560, C569, C570, C573, C578, C579, C590, C597	GRM/TMK/MCH/104Z 25V CAP-Ceramic -C	3036003Z0104	44	
15					
16	R582	CR/RK73H/ERJ/MCRF203 RES-MET RN -C	325003F0203	1	

G4N-PCB Assy (2/4)
(41033701)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
17	R579	CR/RK73H/ERJ/MCRF303 RES-MET RN -C	3235003F0303	1	
18	R609	CR/RK73H/ERJ/MCRF622 RES-MET RN -C	3235003F0622	1	
19	R607	CR/RK73H/ERJ/MCRF621 RES-MET RN -C	3235003F0621	1	
20	R593, R594	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	2	
21	R189	CR/RK73K/ERJ/MCRJ105 RES-MET RN -C	3235003J0105	1	
22	R589	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
23	R102	CR/RK73K/ERJ/MCRJ181 RES-MET RN -C	3235003J0181	1	
24	R608	CR/RK73K/ERJ/MCRJ164 RES-MET RN -C	3235003J0164	1	
25	R100, R101, R103, R104	CR/RK73K/ERJ/MCRJ220 RES-MET RN -C	3235003J0220	4	
26	R531	CR/RK73H/ERJ/MCRF243 RES-MET RN -C	3235003F0243	1	
27	R536	CR/RK73K/ERJ/MCRJ303 RES-MET RN -C	3235003J0303	1	
28	R530	CR/RK73H/ERJ/MCRF513 RES-MET RN -C	3235003F0513	1	
29	R537, R539	CR/RK73K/ERJ/MCRJ300 RES-MET RN -C	3235003J0300	2	
30	R706	CR/RK73K/ERJ/MCRJ393 RES-MET RN -C	3235003J0393	1	
31	R512	CR/RK73K/ERJ/MCRJ471 RES-MET RN -C	3235003J0471	1	
32	R559, R560, R606	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	3	
33	R188, R519, R587, R588, R590~R592	CR/RK73K/ERJ/MCRJ473 RES-MET RN -C	3235003J0473	7	
34	R546	CR/RK73K/ERJ/MCRJ623 RES-MET RN -C	3235003J0623	1	
35	R540, R542	CR/RK73K/ERJ/MCRJ822 RES-MET RN -C	3235003J0822	2	

G4N-PCB Assy (3/4)
(41033701)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
36	R107~R109, R147~R150, R161, R163, R165, R167, R169, R171, R173, R175, R187, R208~R215, R523, R583~R586, R597~R600, R602~R605, R705, R707~R718	CR/RK73Z/ERJ/MCRJ-0V RES-0Ω -C	3255003P0001	50	
37					
38	RM1~RM9	CN1J4/EXBV8V22ΩJ RES-Block -C	3345003J0220	9	
39	RM12, RM13	CN1J4/EXBV8V47KΩJ RES-Block -C	3345003J0473	2	
40					
41	D500~D506	SS100MA80VSCP D-Signal -C	611A0000N0003	7	
42	TR1	DTC114EKA TR-NPN/H-FREQ -C	602A1035N0005	1	
43					
44	IC1	LSI2032E-110LT44-D03 Memory-PLA -F	8180338N0003	1	
45	IC2	YTD423D-S CPU-Interface -F	8550846N0001	1	
46	IC3	YTD421B-E Analog-MOSdata -S	7324046N0001	1	
47	IC4	MSM7507-01GS-K Analog-MOSdata -S	7324024N0001	1	
48	IC7	74HC14FP Digital IC-MOS -S	702A1703N0014	1	
49	IC9, IC10	74HC244FP Digital IC-MOS -S	702A1703N0244	2	
50					
51	RAM1	OR-Mrmory-MOSDRAM-S	41087601	1	
52	RAM3	71321LA55J Memory-MOSSRAM -L	8040003N4301	1	
53					
54	FLS	FLASH MEM. IC	41317101	1	

G4N-PCB Assy (4/4)
(41033701)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
55					
56	CPU	HD6437034AE08F CPU-MOS (ROM) -F	8530432N0005	1	
57					
58	OSC1	HC-49/U03C-19.66MHz OSC-Crystal -C	3801001B0002	1	
59	OSC2	HC-49/U03C-12.288MHz OSC-Crystal -C	3801001B0001	1	
60					
61	LC1, LC2	MT-Y223NB COMP PAR-LC -	342A1013N0223	2	
62					
63	T1	PE-65795 TFORMER-Pulse -S	3655000P0001	1	
64					
65	L2, L3	LHL10-102J Coil-HF -	353A1013J0102	2	

APPENDIX E PC-LOADING

1. General

1.1 Application

This specification applies to the FX-046VP, an MFP unit capable of two-way communication using the parallel port as its standard feature.

1.2 General

This specification describes the details of PC loading through the Centro connector provided in the FX-046VP.
The functions covered are for loading by each of default data, *flash memory program and language areas, which are equivalent to those of the existing HSLS.
You should download the fill from DOS prompt ; not DOS-window.
* I-FAX NIC F/W cannot be loaded by PC-LOADING.

1.3 Note on Explanation

The terms used herein shall be interpreted as follows unless specified otherwise.

Term	Explanation
Transfer	Transmission from the PC to FX-046VP
Receiving	Receiving from the PC to FX-046VP
Loading data	Data in general that is transferred from the PC to FX-046VP
Loading program	Program for receiving the data actually loaded to FX-046VP

1.4 Related Document

FX-046VP FACSIMILE TRANSCEIVER PRODUCT SPECIFICATION

2. Basic Operation

2.1 Supported Functions

The PC loading functions described herein are as follows. Functions equivalent to those used in the existing HSLS (High Speed Loading System) are supported.

1. Default data area loading function
2. Language area loading function
3. *Flash memory area program loading function

* I-FAX NIC F/W cannot be loaded by PC-LOADING.

These PC loading functions are supported only when the OS used on the PC side is either MS-DOS Ver. 6.0 or above or PC-DOS Ver. 6.0 or above.

2.2 Differences from HSLS

It must be noted that PC loading through the Centro cable is different in the following points as compared with loading in the HSLS:

(1) While transition to the PC loading process is judged according to the presence/absence of the HSLS board, transition to PC loading is possible by detection of memory error occurrence and manual key operation this time.

(2) The header information is added anew to cope with the addition of the loading program as one of the loading data.

(3) There is no special application in this PC loading unlike the HSLS. Loading is performed by loading data output to the parallel port by means of a binary specification (copy/b).

(4) In the case of the HSLS, returning to normal standby state will not occur so long as the HSLS board is installed. In this system, on the other hand, the normal standby state is set automatically upon detection of the end of loading data by means of the header data.

(5) The cause of the error is displayed by the corresponding code upon occurrence of a hash NG or other error. For the code, see “6. List of Error Causes and Corresponding Codes.”

3. PC Loading Procedure

3.1 PC Loading upon Memory Error Occurrence

3.1.1 Explanation on Procedure

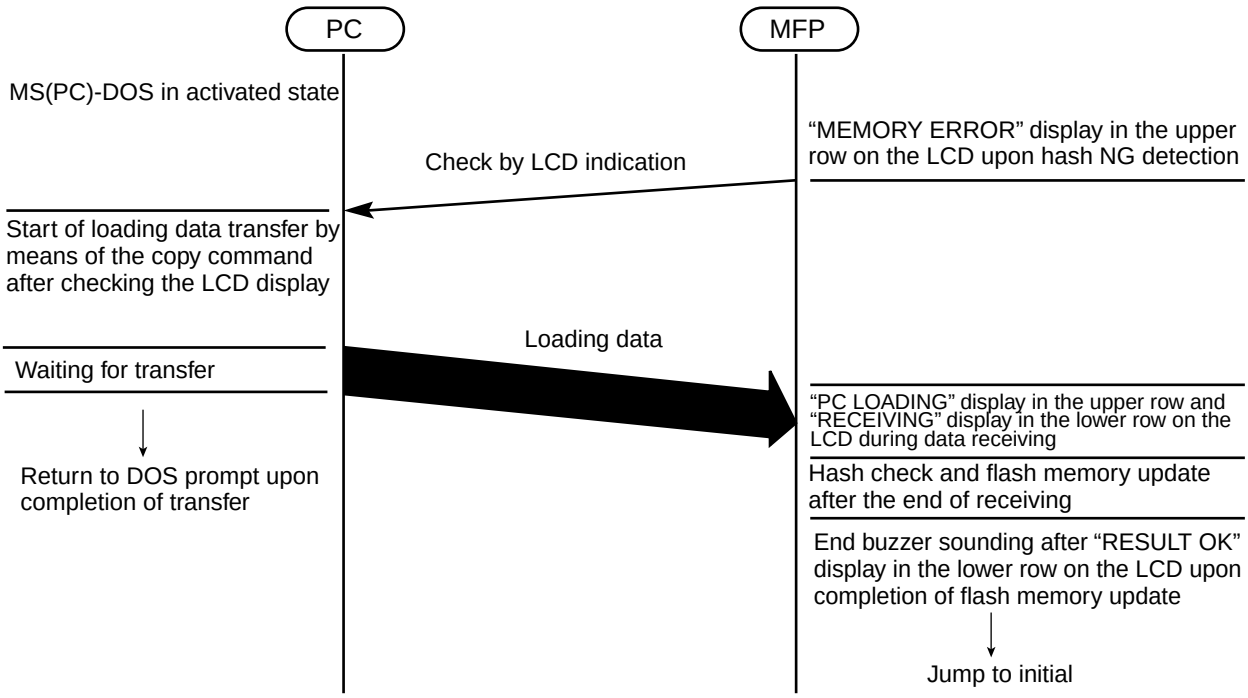
The PC loading procedure when the LCD on FX-046VP displays “MEMORY ERROR” for a hash NG state due to one reason or another is explained below.

(1) Activate the MS(PC)-DOS with the host PC and FX-046VP connected via the Centro cable.

(2) Input the copy command from the MS(PC)-DOS on the PC to output the loading data file in binary specification to the LPT1 in order to transfer the loading data to FX-046VP.

Example:
`>copy/b xxx.x LPT1` (xxx.x is the loading data file name.)

(3) The user shall judge the normal end of data loading by checking the normal end of file output on the PC and sounding of the buzzer indicating the normal end on FX-046VP. If FX-046VP displays an error on the LCD, sounds the buzzer for an error or lights up the alarm LED, the user shall judge abnormal end of data loading from the PC and repeat the procedure from step 2 after turning FX-046VP power off once and to on again.


PC
MFP
MS(PC)-DOS in activated state
“MEMORY ERROR” display in the upper row on the LCD upon hash NG detection
Check by LCD indication
Start of loading data transfer by means of the copy command after checking the LCD display
Loading data
Waiting for transfer
“PC LOADING” display in the upper row and “RECEIVING” display in the lower row on the LCD during data receiving
Return to DOS prompt upon completion of transfer
Hash check and flash memory update after the end of receiving
End buzzer sounding after “RESULT OK” display in the lower row on the LCD upon completion of flash memory update
Jump to initial

3.1.2 Procedural Sequence Diagram

3.2 PC Loading by Manual Operation

3.2.1 Explanation on Procedure

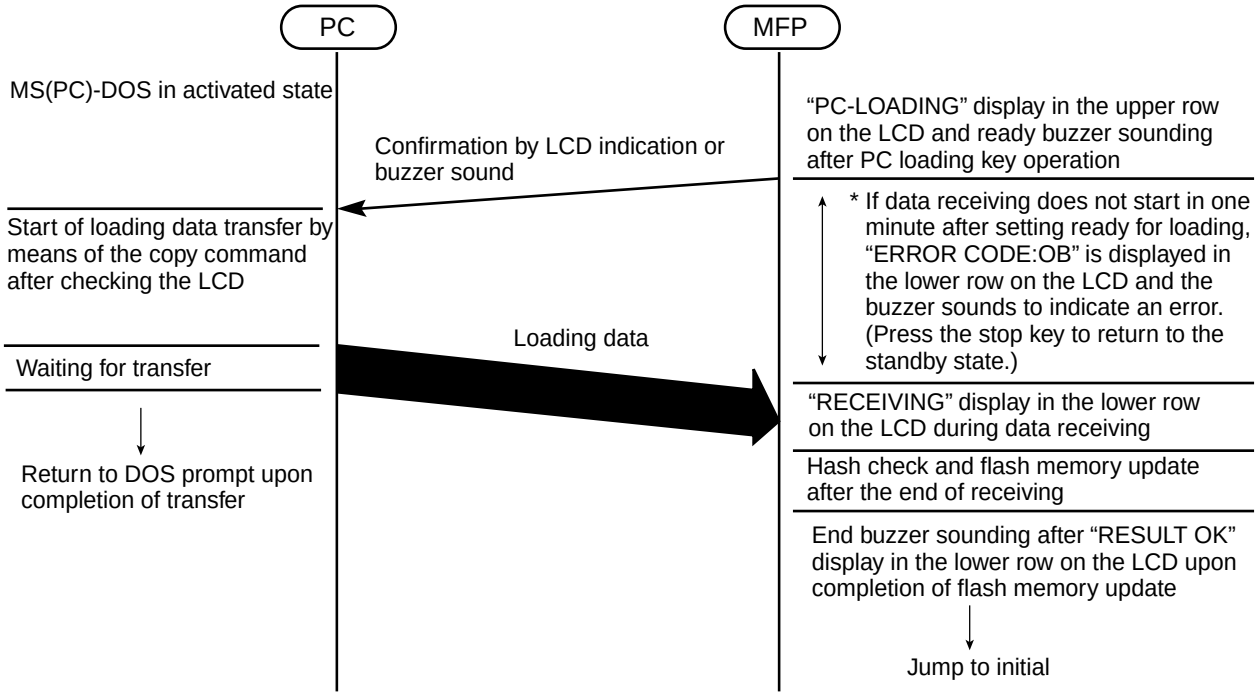
Loading shall be performed as shown below when the PC loading function is selected by key operation by a service man.

(1) Activate the MS(PC)-DOS with the host PC and FX-046VP connected via the Centro cable.

(2) Input the copy command from the MS(PC)-DOS on the PC to output the loading data file in binary specification to the LPT1 in order to transfer the loading data to FX-046VP.

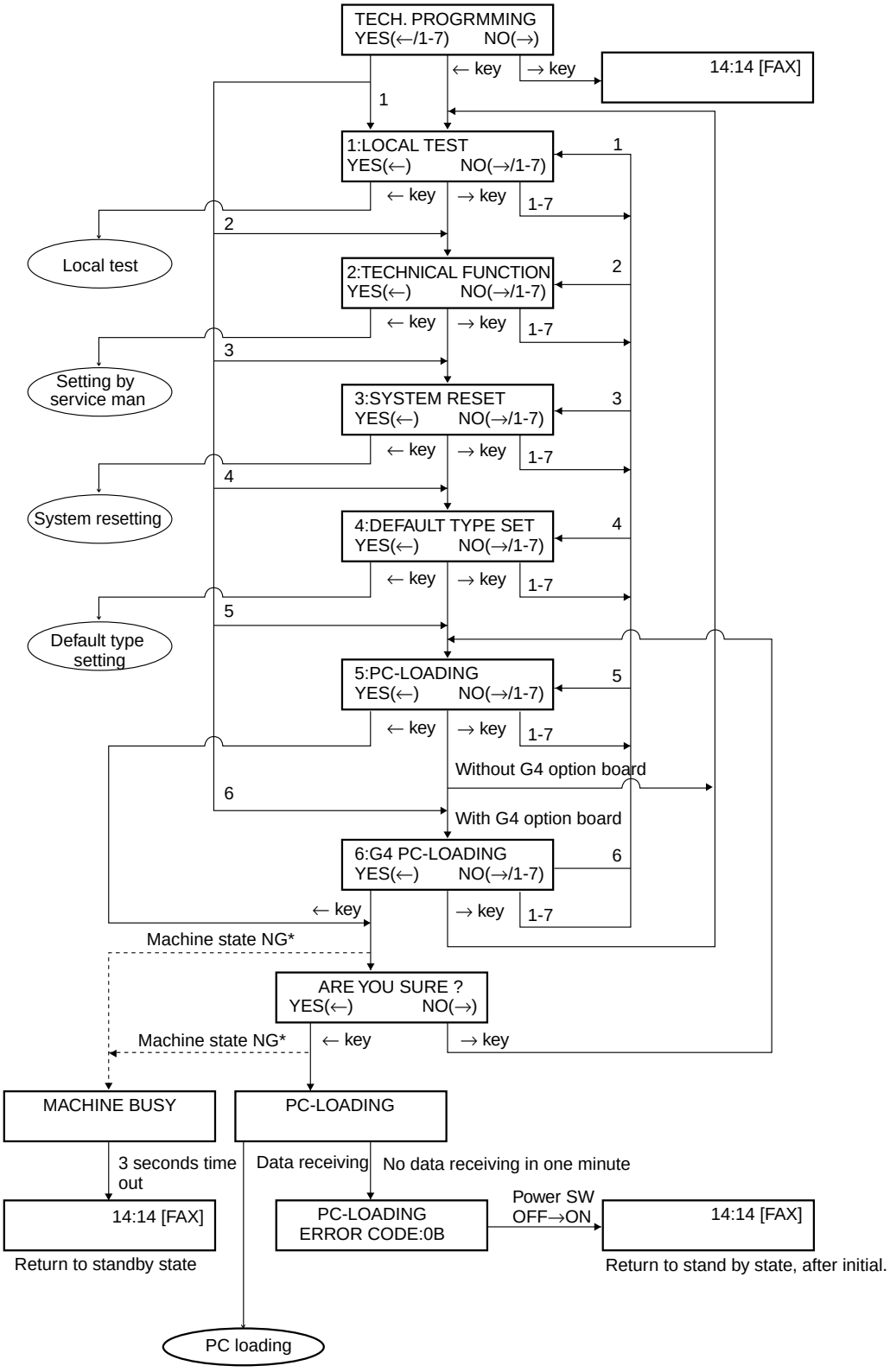
Example:
`>copy/b xxx.x LPT1` (xxx.x is the loading data file name.)

(3) The user shall judge the normal end of data loading by checking the normal end of file output on the PC and sounding of the buzzer indicating the normal end on FX-046VP. If FX-046VP displays an error on the LCD, sounds the buzzer for an error or lights up the alarm LED, the user shall judge abnormal end of data loading from the PC and repeat the procedure from step 2 after turning FX-046VP power off once and to on again. (See “6. List of Error Causes and Corresponding Codes” for the error cause.)


PC
MFP
MS(PC)-DOS in activated state
“PC-LOADING” display in the upper row on the LCD and ready buzzer sounding after PC loading key operation
Confirmation by LCD indication or buzzer sound
* If data receiving does not start in one minute after setting ready for loading, “ERROR CODE:OB” is displayed in the lower row on the LCD and the buzzer sounds to indicate an error. (Press the stop key to return to the standby state.)
Start of loading data transfer by means of the copy command after checking the LCD
Loading data
Waiting for transfer
“RECEIVING” display in the lower row on the LCD during data receiving
Hash check and flash memory update after the end of receiving
Return to DOS prompt upon completion of transfer
End buzzer sounding after “RESULT OK” display in the lower row on the LCD upon completion of flash memory update
Jump to initial

3.2.2 Procedural Sequence Diagram

3.2.3 Operation Flow



* image in memory, redial, delayed fax, alarm (except NO PAPER, TONER LOW/NO IDunit), and OFF HOOK, operate different way, dotted lines.

Note: When G4 option board is not installed, the lowest display of LCD is shifted from "No (→/1-6)" to "No (→/1-5)" and "6" selection from each screen cannot be set.
"No(→/1-7) is displayed when installed with an I-FAX NIC option.

4. LCD Messages

The LCD message in each operation state is shows below. Note that each message does not vary with the default type or language type.

(1) Upon transition to PC loading function

Transition by manual operation

```
PC-LOADING
```

Transition by a memory error

```
MEMORY ERROR
```

(2) During data receiving before loading end buzzer sounding

```
PC-LOADING
RECEIVING
```

(3) During loading end buzzer sounding

```
PC-LOADING
RESULT OK
```

(4) Upon error occurrence during loading

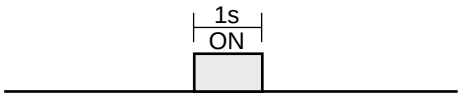
```
  PC-LOADING
ERROR   CODE:**
```

"**": Error code (See "6. List of Error causes and Corresponding Codes.")

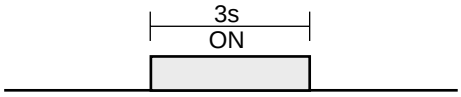
5. Buzzer Sounding Patterns

The buzzer sounding patterns for various cases are shown below. In each case, the buzzer frequency is 2,400 Hz and the sound volume is maximum.

5.1 Upon Start of PC Loading



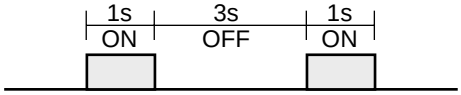
5.2 Upon Normal End



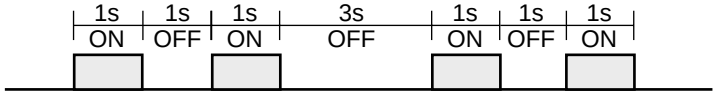
5.3 Upon Error Occurrence

The following sounding patterns are provided for indicating various error causes. Intermittent sounding is repeated until FX-046VP power is turned off. See “6. List of Error Causes and Corresponding Codes” for details of the error causes and codes.

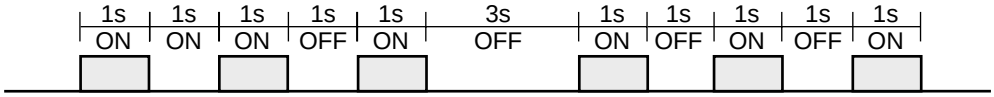
(1) Receive data hash check NG (error code: “01”)



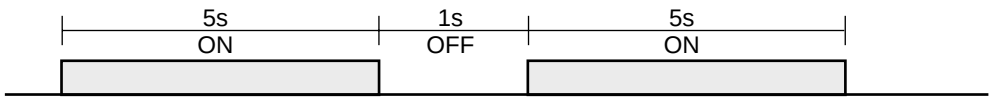
(2) Flash memory erase/write NG (error code: “02”)



(3) Disagreement between contents of flash memory and external RAM (error code: “03”)



(4) Other error (error code: other other than above)



6. List of Error Causes and Corresponding Codes

The table below lists the error causes likely to occur during PC loading and the corresponding codes. When an error occurs, the corresponding error code is displayed, the buzzer sounds in the corresponding pattern and transition to the permanent loop state occurs. (See Note 1.)

See “4. LCD Messages” and “5. Buzzer Sounding Patterns” for the LCD display and buzzer sound upon occurrence of each error.

No.	Error cause	CODE
1	Timeout of data receiving waiting timer (14 seconds)	00
2	Loading data hash check error	01
3	Flash memory erase/write error	02
4	Disagreement between flash memory and external RAM contents (verify error)	03
5	Header sum check NG *1	04
6	Disagreement between loading machine type and machine identifier in header *1	05
7	Designation of unspecified parameter in header *1	06
8	Extended address record sum check NG *2	07
9	Data record sum check NG *2	08
10	Start address record sum check NG *2	09
11	File end record sum check NG *2	0A
12	Timeout by failure in normal data receiving for 1 minute in loading waiting state after operation	0B
13	RAM check result NG upon starting loading program processing	0C

*1. Occurs only in binary format specification.
*2. Occurs only in Intel HEX code specification (reservation code not actually used).

Note: No error processing (transition to permanent loop state after error code display and buzzer sounding in corresponding pattern) occurs when any of the following errors occurs in receiving the loading program header. The receive data until error occurrence is discarded and the program header receiving starts from the beginning again.

(1) Header sum check NG
(2) Disagreement between loading machine type and machine identifier in header
(3) Designation of unspecified parameter in header
(4) Designation of other than loading program as data type identifier in header
(5) Designation of no succeeding data in descriptor
(6) Designation of Intel HEX format as data type
(7) 14 seconds timeout in header receiving end waiting state

7. Cautions

(1) Execute the copy command for PC loading after sounding of the buzzer indicating the ready state for loading (for about 1 second). Since the buzzer does not sound for PC loading upon memory error detection, however, execute the copy command after checking “MEMRY ERROR” indication on the LCD after power on.

(2) Even after returning to the DOS prompt state after the end of the copy command on the PC, do not turn FX-046VP power off until the buzzer indicating the end of MFP loading sounds.

8. Loading Processing Time

The processing time for reloading in the whole FX-046VP area (program 1, language and default) is shown below.

Sample data

- Measuring conditions
  - Host PC 800MHz-PentiumIII Windows Me
  - Device FX-046VP (Flash memory all-cleared)
  - File A FILE
- Result
  - Approx. 85 sec.

APPENDIX F RMCS SYSTEM MANUAL (For Model 40)

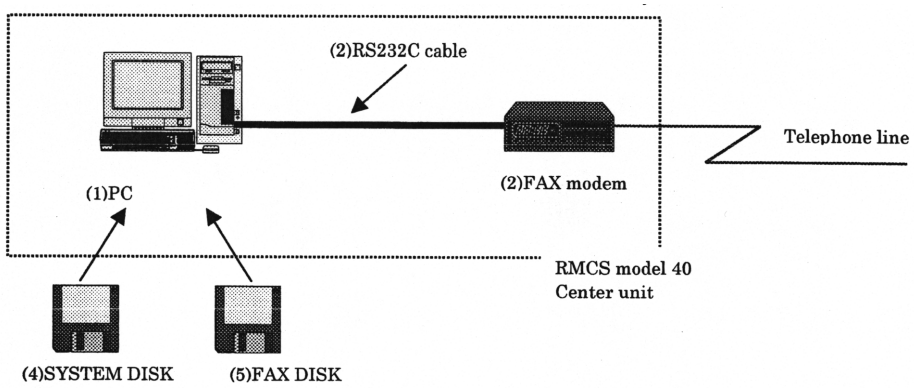
1. Notes to RMCS user

1.1 Introduction

RMCS stands for the Remote Management Center System. The purpose of this system is to speed up customer service and reduce maintenance costs.

1.2. System Configuration of RMCS MODEL40

System configuration of RMCS Model 40 is shown below. PC, FAX Modem are needed for the system.



(1) PC : IBM PC or compatible PC with Windows95/98/Me, WindowsNT4.0, Windows2000, WindowsXP Pro, WindowsXP home.
(2) FAX modem : Any FAX modem be accessed by a serial port of Windows system. To achieve the good stability and performance, the FAX modem shown in Table G.1 are recommended, which has been tested during development.
(3) RS232C cable : In case the FAX modem needs the cable to attach to the PC
(4) SYSTEM DISK : To install this system and FAX DISKs.
(5) FAX DISK : FAX DISK corresponds to each FAX model. This software includes default data and communication control program for the target model of FAX machine.

1.3 Required System

The RMCS (Remote Management Center System) for Win must be installed in the PC that has Windows-OS installed in order to run maintenance works from a remote location by using the RMCS for Win.
The PC system, in which the RMCS for Win is installed and executed for maintenance works, differs depending on the operation system.
The following system configuration is required to use the RMCS for Win.

Table F.1 The PC system configuration required to use the RMCS for Win

OS	Windows 95 OSR2 or later + IE4.0(*1) or later Windows 98 Windows NT4.0 Service Pack 4 ~ + IE4.0(*1) or later Windows 2000 Windows Me Windows XP Professional/Home Edition
CPU	Windows XP Professional/Home Edition : 300 MHz or higher Pentium-compatible CPU Windows 2000 : 133 MHz or higher Pentium-compatible CPU Windows Me : 150 MHz or higher Pentium-compatible CPU Windows NT4.0 : i486TM/25 MHz or highter Windows 95/98/NT4.0 : 486DX/66 MHz or higher
Memory	Windows XP Professional/Home Edition : 128MB or higher Windows 2000 : 64MB or higher Windows 95/98/NT4.0/Me : 32MB or higher
Hard Disk	20MB or higher of free space
Monitor Resolution	640 dots x 480 dots or higher
Recommended Fax Modem	U.S. Robotics 56K faxmodem - External Model #5686

*1) IE : Microsoft® Internet Explore ®

2. Quick Set-up manual for RMCS Model 40

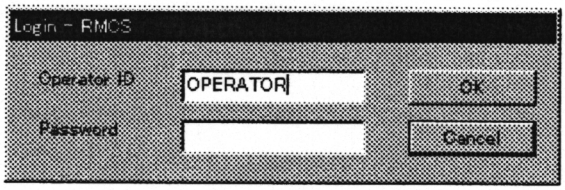
2.1 RMCS Installation

1) Insert the disk to set up the RMCS in the drive.
2) Start up Installer.
3) Execute installation by following the SETUP screen.
   * You can set an operator password during Install.
   * You can skip password registration.
   * You can use up to 15 alphanumeric characters to set up a password.
   * You can change the registered password after installation.
   * You can enter up to 15 alphanumeric characters for a password.

3. Startup

3.1 Entering Operator ID

As the RMCS MODEL 40 starts up, you are queried for entering an operator ID.
You can confirm the operator ID you entered on the System Main screen or the Model Main screen after the RMCS started up.

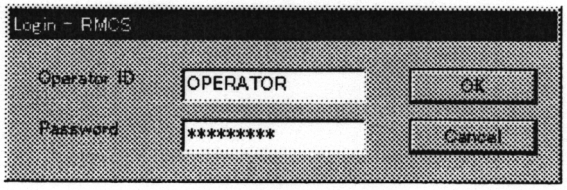


* You can enter up to 50 alphanumeric characters for operator IDs.
* If you want to change the operator ID, you must exit RMCS first, then re-boot it.

3.2 Entering Password

You are queried for entering a password at the same time as entering an operator ID.

1) Enter an operator password.
   * Enter the password that was registered during installation of the RMCS for Win or the password modified later.
   * If no password has been registered, you need not input any herein.

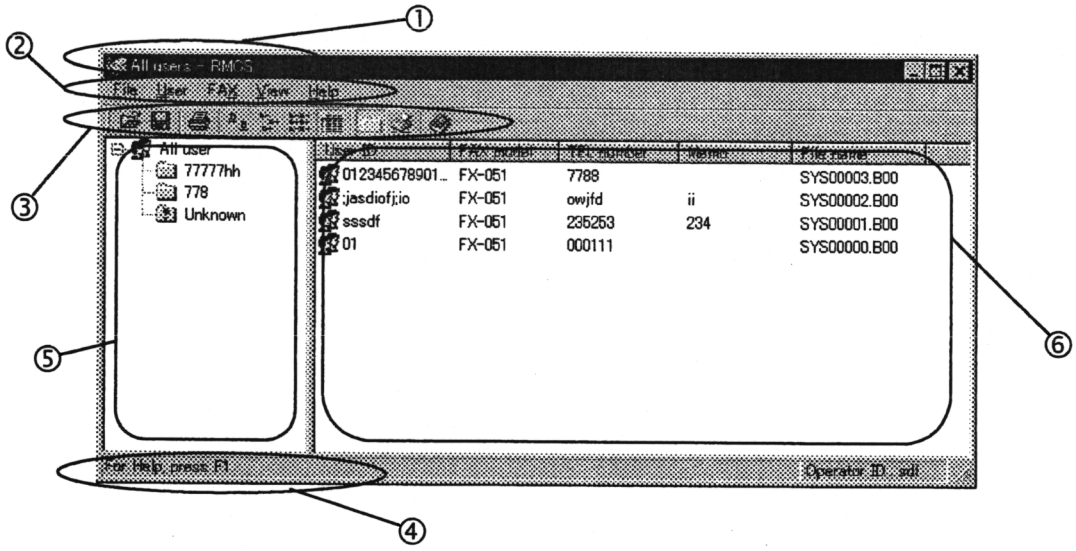


2) Press the OK button.
   * If you enter the password incorrectly three times, the RMCS closes and it does not boot up.

4. SYSTEM Main Screen

4.1 Screen Titles

Once the RMCS for Win is booted, the System Main screen appears.
The titles used in the System Main screen are explained next.



① Title Bar:
Displays the folder names that are displayed on the User Display window.

② Menu Bar:
Displays the menu that executes the various functions.

③ Toolbar:
Displays by the icons the functions that you can execute by clicking.
You can switch Toolbar display/not display on the View Menu.

④ Status Bar:
Displays the status of RMCS, Menu descriptions, and also operator ID.
You can switch Status bar display/not display on the View menu.

⑤ Users (RMCS users) Category Window:
Displays the facsimile models that are currently registered, or the folders that the operator has customized.
You can switch the display by the facsimile models or by the folders, on the View menu or by the icons on the Toolbar.

⑥ Users (Field users) Display Window
Displays all users that are currently registered.
You can switch Large Icons, Small Icons, List and Details, on the [View] menu or by the icon on the Toolbar.

4.2 DISK by Models

4.2.1 Adding Models

You must run Install by using the DISK by the models and add models to run maintenance on the facsimile devices. The procedure is explained next.

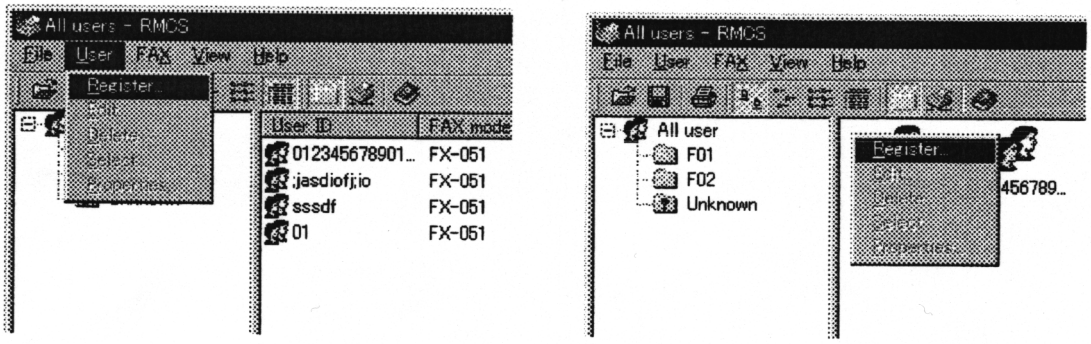
(1) Insert the DISK by the facsimile models in the drive.
(2) Select [Install] on the [FAX] menu.
(3) Select on the Dialog screen the drive where you have inserted the DISK by the facsimile models.
(4) Press the OK button.
(5) Confirm the facsimile device you want to add has been added to the User Category window at the System Main screen.

4.3 Manipulating User Information

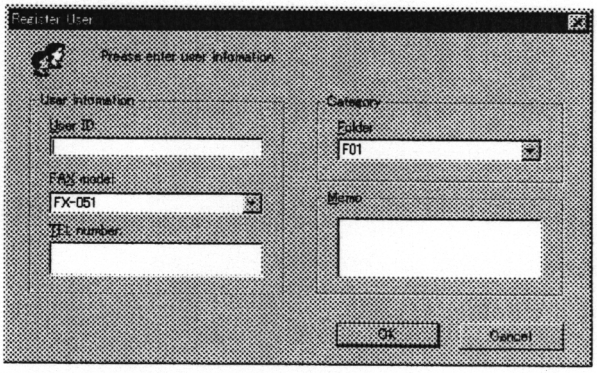
4.3.1 Registering User Information

You must register user information to run maintenance works.

1) Select a folder you want to register at the User Category window.
2) Select [Register] on the [User] menu.
   * You can select by right clicking at the User Display window.



3) The Register Dialog screen appears.
4) Enter each item and press the OK button.



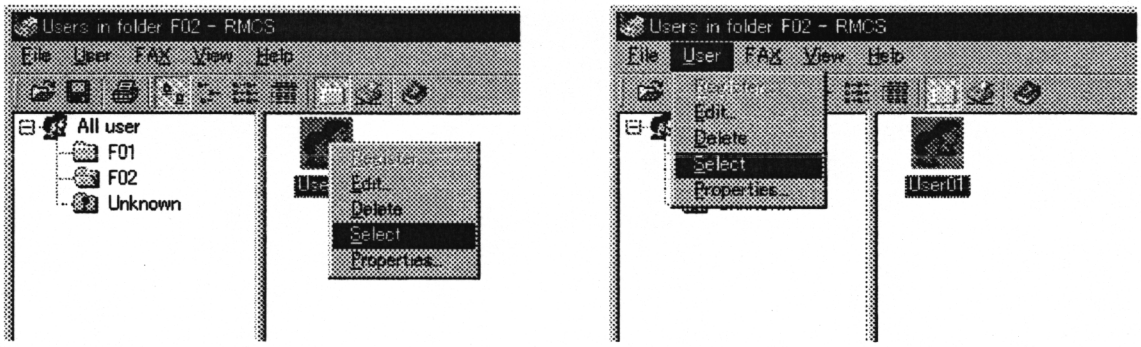
* The following four items are subject to registration.
  1. User ID: Enter up to 15 alphanumeric characters (must)
  2. FAX model: Select on the Pull-down menu. (must)
  3. TEL number: Enter a TEL number of up to 48 digits. (must)
  4. Folder: Select on the Pull-down menu. (choice)
  5. Memo: Enter up to 50 alphanumeric characters (choice)

* You cannot register by the User ID name that is already registered.

4.3.2 Selecting User Information

To select the user information subject to maintenance so as to move to the Model OFFLINE screen.

1) Select the user information on which you want to run maintenance at the User Display window.
2) Select [Select] on the [User] menu.
   * You can select by right clicking at the All Users window.
   * You can select by double clicking at the level when user information is selected.

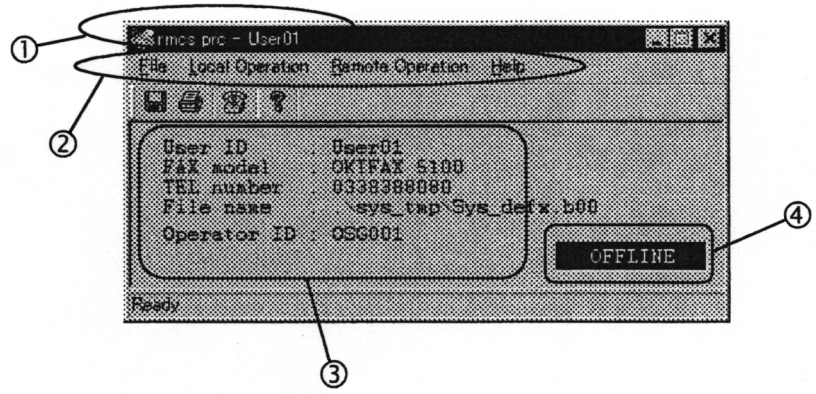


3) The Model OFFLINE screen appears.

5. Model Main Screen

5.1 Screen Title

When User Information is selected at the RMCS for Win SYSTEM Main screen, the Model Main screen appears.
The Model Main screen is explained next.



① Title Bar:
To display the facsimile model name

② Menu Bar:
To display the menu at which each function is executed

③ Area to display user information and operator information:
To display user information and operator IDs to set/display/edit

④ ONLINE/OFFLINE display:
To recognize ONLINE/OFFLINE status of setup information currently displayed

5.2 ONLINE Operation

Select items on the [Remote Operation] menu, to run ONLINE operations through the communication circuit.

1) Change the telephone number, if necessary, at the [TEL number setting] sub-menu on the [Local Operation] menu.
2) Select items on the [Remote Operation] menu.

Initialization of FAX
File [LOAD (→ FAX)]
File [SAVE (→ HD)]
[EDIT] (ON LINE)
Testing
Disconnect

3) Confirm that ONLINE is displayed at the Model Main screen.

5.2.1 Loading

To load file-format data from the RMCS (maintenance work PC) to the target FAX device.
The data in the target FAX device is replaced with the loaded data.

1) Select items to load at the [File[LOAD(→FAX)]] sub-menu on the [Remote Operation] menu.

All data
User data
Serviceman data
TEL number data
Program/*Language/Default data

2) (File loading.)
3) Select the [Disconnect] sub-menu on the [Remote Operation] menu to close the circuit.
   * You can select a new item on the [Remote Operation] menu without disconnecting the line.
4) Confirm that OFFLINE is displayed on the Model Main screen.
   * I-FAX NIC F/W cannot be loaded from RMCS.

5.2.2 Saving

To upload the file-format data from the target FAX device in the RMCS (maintenance work PC) and save.
The data that is saved in the RMCS is replaced by the newly saved data.

1) Select the [FILE[SAVE(→HD)]] sub-menu on the [Remote Operation] menu.
2) Select a driver and a folder to save at the dialog screen.
3) (File saving.)
4) Select the [Disconnect] sub-menu on the [Remote Operation] menu to close the circuit.
   * You can select a new item on the [Remote Operation] menu without closing the circuit.
5) Confirm that OFFLINE is displayed on the Model Main screen.

5.2.3 Editing

To edit/set contents of data on the target FAX device from the RMCS (maintenance work PC) side You can also save the data you edited/set in the RMCS. In this case, the data saved in the RMCS is replaced with the data you have just saved.

1) Select an item to edit/set at the [EDIT(ONLINE)] Sub-menu on the [Remote Operation] menu.
2) The dialog screen for User/Serviceman/Telephone number data appears.
3) Edit/set the contents of data.

User data
Serviceman data
TEL number data

Updating the data on the target FAX device side:
4) Press the LOAD button.
5) (File loading.)
6) Select the [Disconnect] sub-menu on the [Remote Operation] menu to close the circuit.
   * You can select a new item on the [Remote Operation] menu without closing the circuit.
7) Confirm that OFFLINE is displayed on the Model Main screen.

Updating the data on the RMCS (Maintenance work terminal) side:
4) Press the SAVE button.
5) Select a drive and a folder at the SAVE dialog screen and press the OK button.
6) Select the [Disconnect] sub-menu on the [Remote Operation] menu to close the circuit.
   * You can select a new item on the [Remote Operation] menu, without closing the circuit.
7) Confirm that OFFLINE is displayed on the Model Main screen.

5.2.4 Initializing

To initialize the contents of registration of the target FAX device by sending the initialization command to the target FAX device from the RMCS (Maintenance work PC).

(1) Select an item to initialize at the [Initialization of FAX] sub-menu on the [Remote Operation] menu.

All data
User data
I-FAX NIC data
Serviceman data
TEL number data
Activity report data
Drum counter
Toner counter
Drum(T) counter
Print counter
Scan counter

APPENDIX G INTERNET FAX OPTION

This user's guide describes how to install and configure the Internet Fax kit into a fax machine. After installing this kit, the following functions are available for use:

- Send and receive Internet fax messages.
- Network scanner

Supported systems
Supported LAN systems (topologies) are as follows.

- 10base-T Ethernet.

Supported protocols
Supported Internet fax protocols are as follows:

- TCP/IP
- SMTP
- POP3
- DNS

Note: TELNET, FTP, SNMP, MIB, HTTP (WEB) are not supported.

1. Internet fax settings

1.1 General

Before using Internet Fax, consult with the network administrator about correct network settings. There are two types of setting values for Internet Fax, which are as follows:

- Data stored on the fax machine.
- Data recorded on the network card.

To print out a list of the setting values on the fax machine, using the control panel of the fax machine, select FUNCTION, then select OT6 (REPORT PRINT) and then select 5:CONFIGURATION.

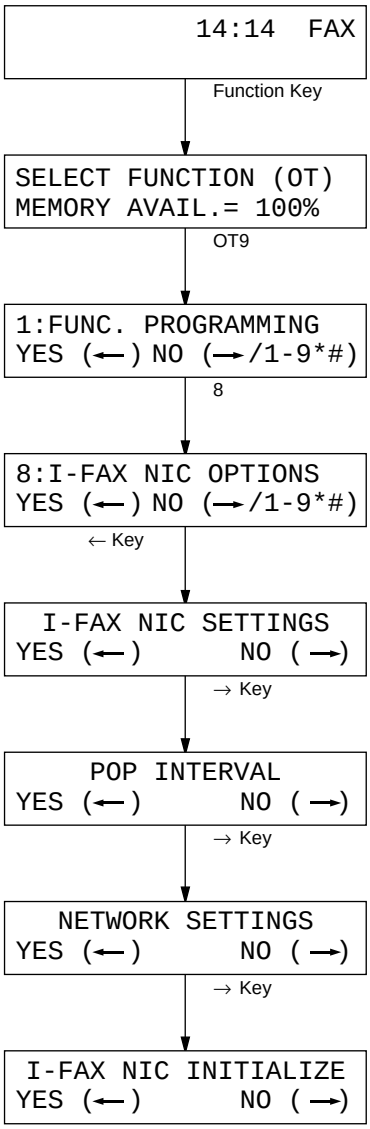
1.2 Settings

Internet Fax can be set with I-FAX NIC OPTIONS of User Programming.
Supported I-FAX NIC OPTIONS are as follows:

- I-FAX NIC SETTING
- POP INTERVAL
- NETWORK SETTINGS
- I-FAX NIC INITIALIZE

However, these operations are possible when an I-FAX NIC board is installed.

1.3 Operation overview



1.4 User/Technical functions

A: I-FAX NIC SETTINGS

1: TEXT PRINT - Whether or not to print the body text of email. If this setting is ON, the text in an e-mail message is printed out. Please note that only US-ASCII characters in the text can be printed as shown in the following table. Any characters that cannot be printed will be shown as spaces. Depending on the e-mail client used, text may not be printed or come out garbled.

Note: - Text is not generally base64 encoded and coded text is not supported (coded text is received, where the text in a coded condition is printed.)
- Two or more pieces of text are all printed.
  A line (98 hyphen characters) is added between text files (including boly copy) and a linefeed is created before and after the line. Between a header and a text file (including body copy), no line is added and one linefeed is inserted.
- All the MIME header of the attached file is not printed out.
- A blank line in the top of TEXT is eliminated in print, and be printed.
- With Microsoft Outlook, there is a setting to send an Email body by the HTML format. When the setting is the HTML format, then the body will be sent by both TEXT and HTML format. If the one received, Internet Fax will print out only the TEXT portion.
  However, if the setting is HTML format and there is an attached file, then the HTML portion will be printed out as it is.
  When the Outlook is used, please use the Text as the sending format.

	00	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0
0			SP	0	@	P	‘	p								
1			!	1	A	Q	a	q								
2				2	B	R	b	r								
3			#	3	C	S	c	s								
4			$	4	D	T	d	t					Ä		ä	
5			%	5	E	U	e	u								
6			&	6	F	V	f	v						Ö		ö
7				7	G	W	g	w								
8			(	8	H	X	h	x								
9			)	9	I	Y	i	y								
A			*	:	J	Z	j	z								
B			+	;	K	[	k	{								
C			,	<	L	\	l	|						Ü		ü
D			-	=	M	]	m	}								
E			.	>	N	^	n	~								
F			/	?	O	_	o							ß		

2: HEADER PRINT - E-mail header print setting.
OFF: Do not print header
TYPE1: Print SUBJECT/FROM/TO
TYPE2: Print all header information
This setting is only valid when the TEXT Print setting is ON.

3: CODING MODE - Coding mode for TIFF file images sent by Internet Fax. Select from MH/MR/MMR. Please note that other manufacturers' Internet Fax products often support only MH. This machine supports MR and MMR modes in addition to MH. The rate of compression is MH (low); MR (medium); MMR (high).

4: EX.FINE MODE - Scan resolution of EX.FINE mode for Internet Fax: 300 dpi or 600 dpi.

5: SENDER ID (EMAIL) - Whether or not to add the sender ID to images scanned by Internet Fax. This setting will always apply when using Internet Fax, regardless of the setting for 23:SENDER ID ON/OFF. When using Internet Fax as a scanner, turn this setting OFF to prevent the sender ID data from appearing in scanned images.
Also when this setting is On, the sender ID should be added for the main body of the sending Internet FAX.

6: SEND FILE FORMAT - When an Email is sent, the setting value to decide if either of TIFF/PDF will be used to send the read manuscript is TIFF / PDF.

Note: PDF receiving is not available.

7: SEND NOTIFICATION - This is to set if the message (main body) will be attached when an Email is sent.

8: I-FAX NIC UPDATE - Firmware of the network card is updated when turns this setting into ON. Use the setting for OFF usually.
When update of firmware is necessary, obey instructions of the store which bought FAX.
Update of firmware is needless usually.

B: POP INTERVAL - OFF/1MIN/5MIN/10MIN/30MIN/60MIN/DAILY

- When the DAILY setting is selected, POP TIME (Receiving Action Time) should be set. (Maximum registered number : 4 kinds)
- When the setting is DAILY but the POP TIME is not registered, then the auto POP receiving action will not done. (The action is the same to the OFF setting.)
- After POP TIME is registered, even if the setting is changed from DAILY to another one, but the POP TIME registered will not be eliminated.

If set at OFF, no automatic receptions will be carried out.

C:NETWORK SETTINGS - By selecting this user function, the following network settings can be altered.

1: IP ADDRESS - Sets the IP address.
When 0.0.0.0 is set as the IP address and the power is turn OFF and ON, the DHCP function goes ON and if a DHCP server exists, an IP address is obtained from the DHCP server.
From then on, an IP address is obtained from the DHCP server each time the power is turn ON and OFF, therefore, it is not necessary to change the IP address. When an IP address is obtained from the DHCP server, the value of the obtained IP address is displayed and an asterisk (*) is displayed at the end. If you wish to set a fixed IP address, input the IP address (numbers).
Other than the IP address, a SUBNET MASK, DEFAULT, GATEWAY, DNS Server address, SMTP Server NAME and POP Server NAME are also obtained from the DHCP server automatically. However, the items sometimes cannot be obtained depending on how the DHCP server is set. In such a case, set the address one at a time.

CAUTION: If an address cannot be obtained from the DHCP server properly, return the value of the IP address, SUBNET MASK, DEFAULT GATEWAY, POP SERVER, SMTP SERVER, and DNS SERVER address to 0.0.0.0 temporarily and turn the power OFF and ON.

2: SUBNETMASK - Sets the subnet mask.

3: DEFAULT GATEWAY - Sets the default gateway address.

4: SMTP SERVER NAME - Either the IP address or the host name of the SMTP mail server up to 64 characters may be entered here. The host name (e.g. mail.network.com) can be used if DNS has been set; otherwise, enter the IP address of the server. The address must include the "." (period) dividers (e.g. 192.168.004.123).

Note: Symbols of " and ' cannot be input.

5: POP SERVER NAME - Either the IP address or the host name of the POP mail server up to 64 characters may be entered here. The host name (e.g., mail.network.com) can be used if DNS has been set; otherwise, enter the IP address of the server. The address must include the "." (period) dividers (e.g., 202.250.111.123).

Note: Symbols of " and ' cannot be input.

6: POP USER ID - Enter the user ID registered on the POP3 server, which must be alphanumerical characters no more than 16 characters long.

Note: Symbols of " and ' cannot be input.

7: POP PASSWORD - The password registered on the POP3 server may be entered, which must be alphanumerical characters no more than 16 characters long. If a password has already been registered, it will be shown as 16 Xs to ensure that it will remain protected.

Note: - Symbols of ” and ’ cannot be input.
- 6:POP USER ID and 7:POP PASSWORD settings in the fax machine must match the POP3 user name already entered in the server.

8: DNS P. SRV ADDRESS (Domain Name Service Primary Server) - Sets the IP address of the DNS primary server. This will not be required if the server is connected directly using its IP address.

9: DNS S. SRV ADDRESS (Domain Name Service Secondary Server) - Sets the IP address of the DNS secondary server. Enter this setting only if a secondary server has been set up.

10:FAX Email Address - Enter the email address defined on this machine. Maximum length: 64 characters.

D: NIC INITIALIZE - Initialises the network card back to its original factory settings.

Note: Please check carefully before carrying out this operation.

E: Technical Function 40 - COMMAND TIME OUT
Capable of selecting from 30SEC and 5MIN (default: 30SEC).
It is not necessary to change the setting in normal times.
If a time out error frequently arises, change the setting to 5MIN.

2. Internet fax transmission

2.1 Registering addresses

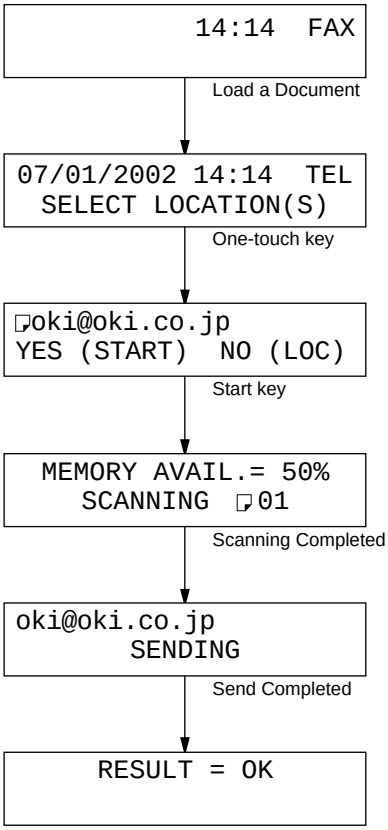
E-mail addresses up to 64 characters long can be assigned to one-touch keys 01 to 10. It is also possible to make up a group of email addresses and assign to one-touch dial numbers, but one-touch dial numbers for both email addresses and telephone numbers cannot be assigned to a single group.

Note : Numbers, small/capital letters, and symbols [! # & ( ) * + , - . / : ; = ? @ \ _ % ~] can be input with the ten-key and one-touch key.
Symbols are allocated in the "0" of the ten-key.
Capital and small letters can be selected with 1/CAP of the one-touch key.
Note that "~" is displayed as "-1" in the LCD.

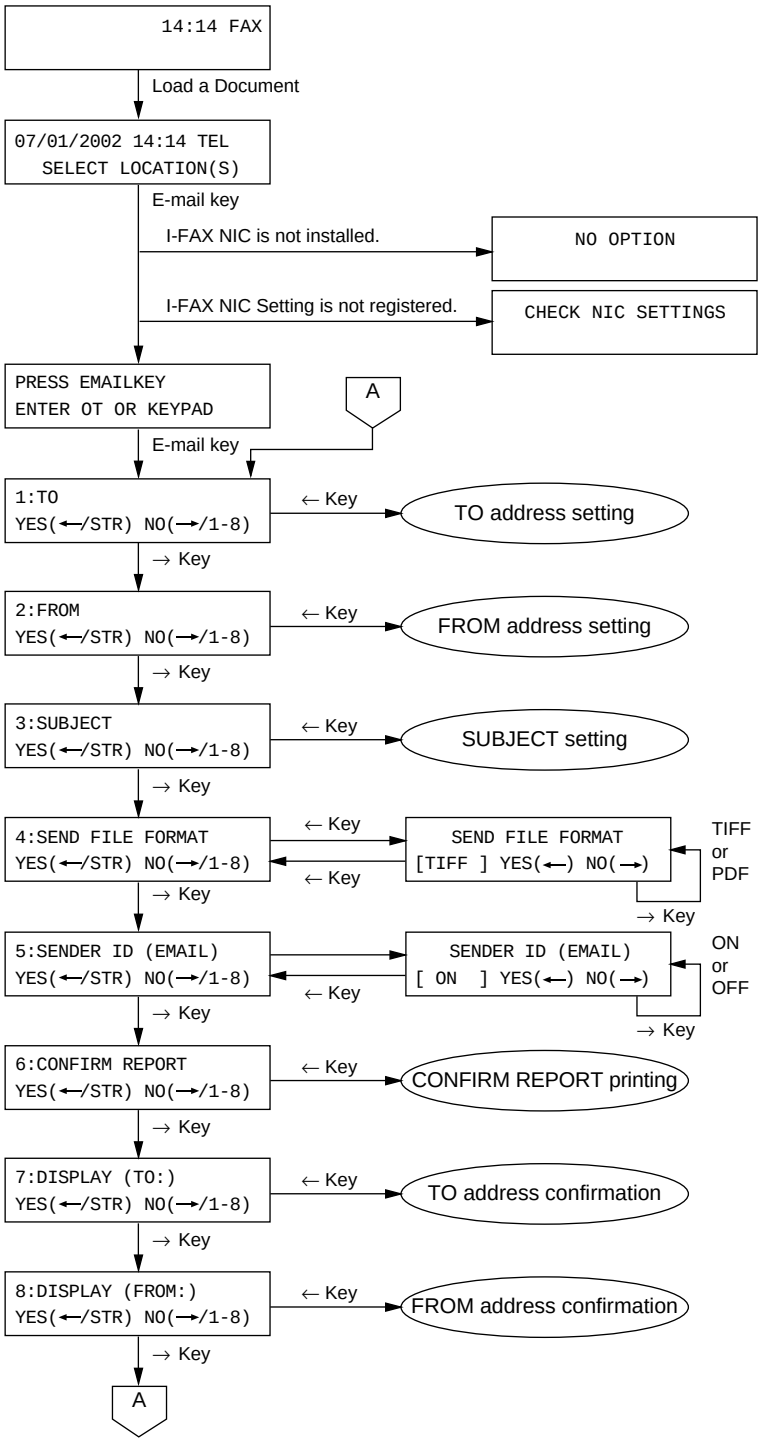
2.2 Sending a document

Place a document on the machine, press the one-touch key on which the recipient's email address is assigned and press Start. After storing the document's image data in memory, the machine will establish a server connection. When this is done, the SENDING message will be displayed. At the end of the transmission, the result will be displayed on the LCD and a buzzer will sound. A document can be sent to several e-mail addresses by pressing the one-touch keys on which they are assigned, but cannot send to recipients with telephone numbers registered on one-touch keys. If the same e-mail address is selected twice, the document will be sent only once. To specify the full e-mail addresses, select Email key to enter each e-mail addresses individually.
It is possible to set the Sender ID On/Off, to enter the Subject and to enter the From address. See the operation flow for the details. And also, with the communication parameter of the Speed Dial, it is possible to set the Sender ID On/Off, and to change the File Format between .tif and .pdf.
To stop transmission, press the Stop key. Please note that the transmission will be terminated at once without asking for confirmation.
Internet Fax data is scanned into memory before transmission. If the document is too large to fit into memory, divide it up and make two or more transmissions.

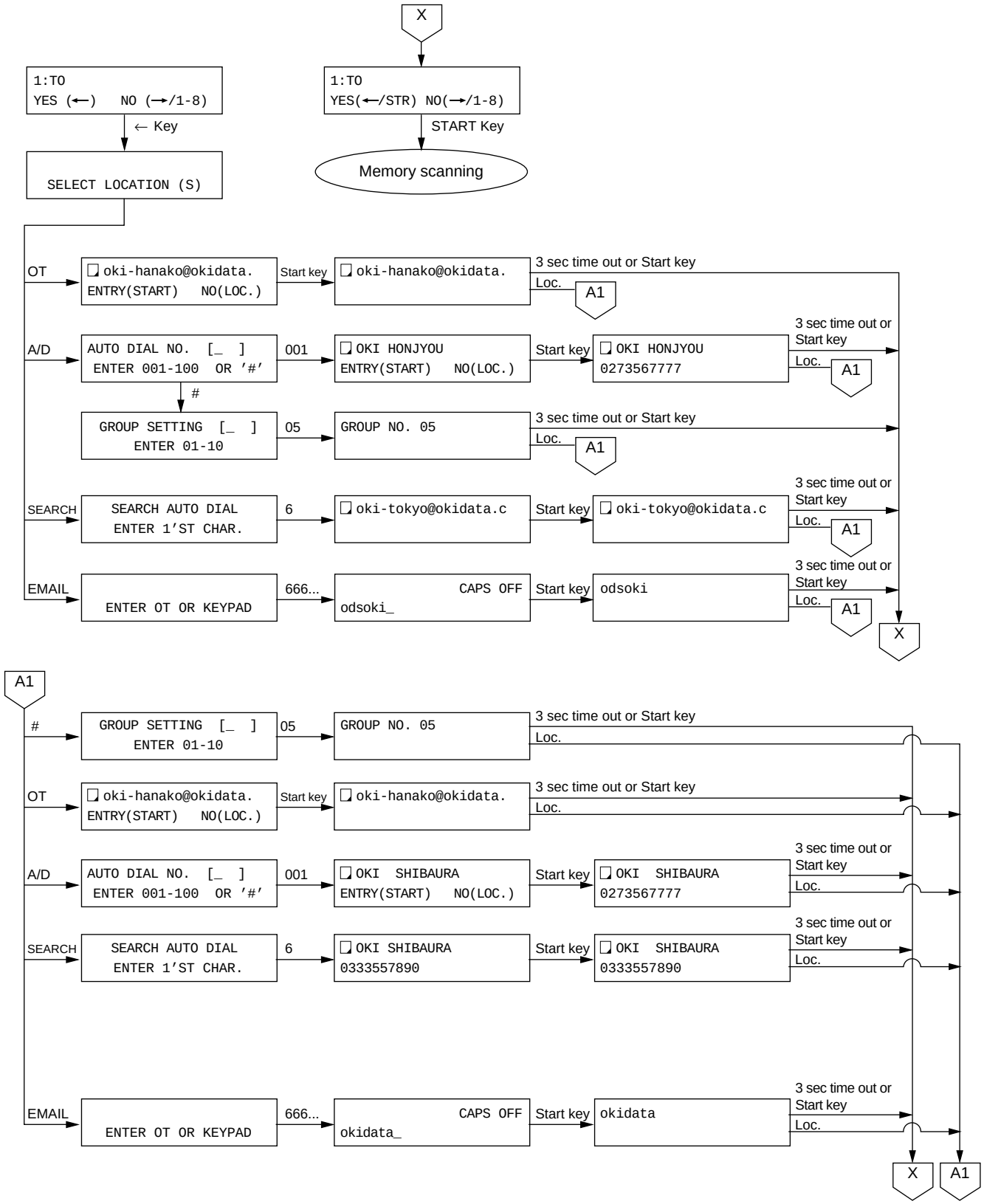
2.3 Internet fax transmission flow



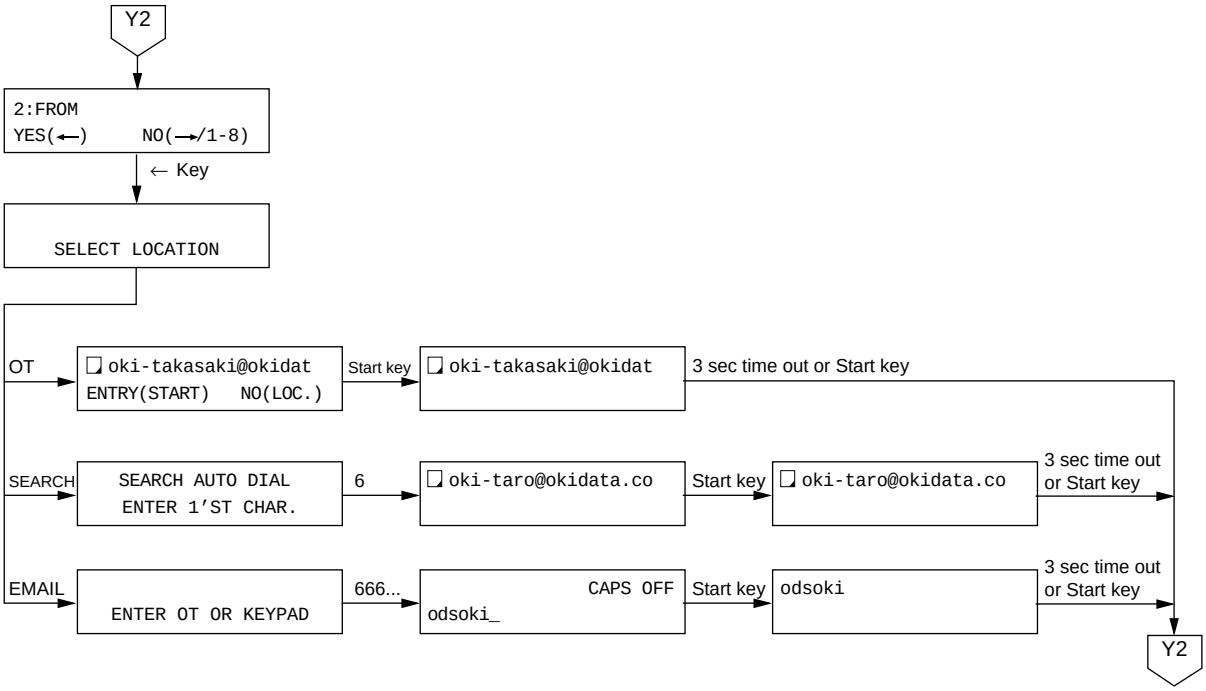
2.4 Internet fax transmission flow with E-mail key



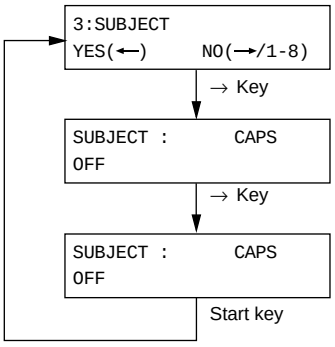
2.5 TO address setting



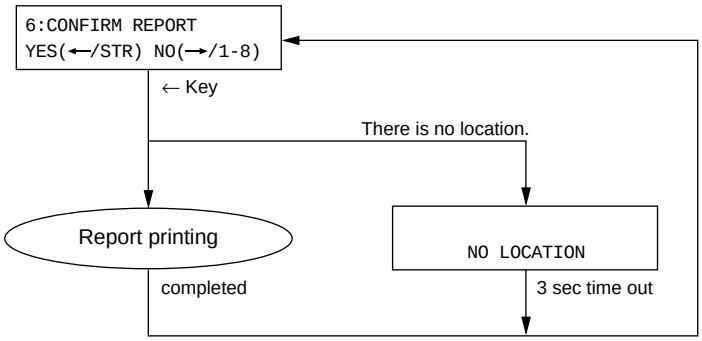
2.6 FROM address setting



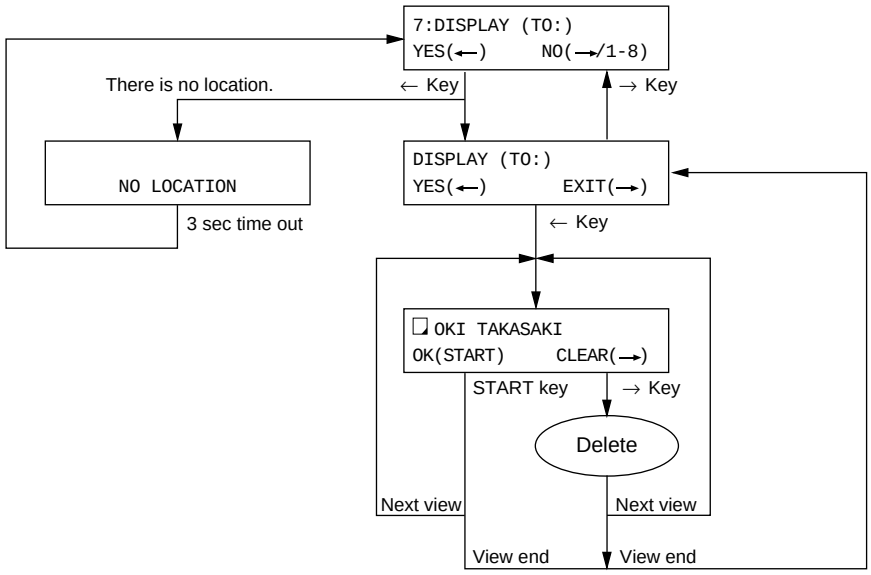
2.7 SUBJECT setting



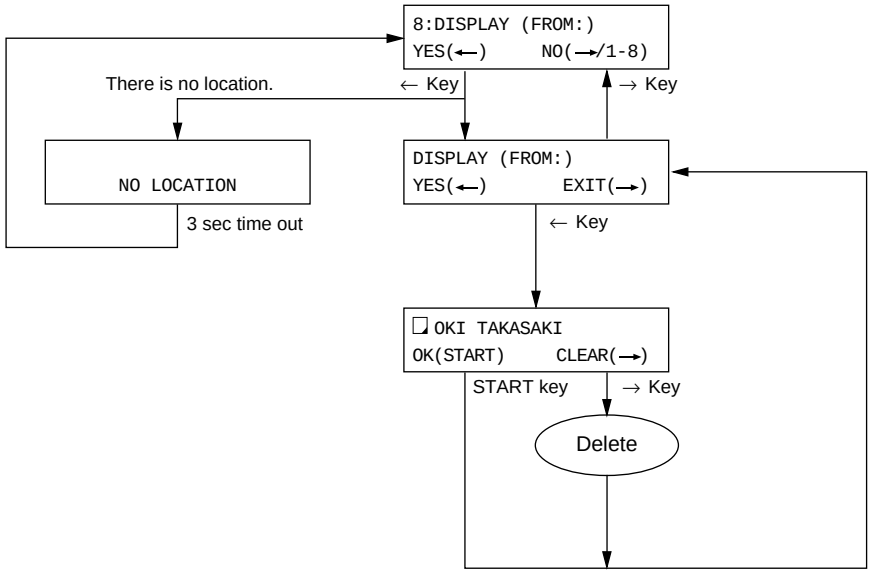
2.8 ENTRY REPORT printing



2.9 TO address confirmation



2.10 FROM address confirmation



Tiff/PDF images
Internet FAX converts scanned documents into a single TIFF or PDF format file and sends it by e-mail. This machine can transmit at a resolution of 200 ¥ 100 dpi in STD mode, 200 × 200 dpi in FINE mode, 300 × 300 dpi or 600 × 600 dpi in EX-FINE and 200 × 200 dpi in PHOTO mode. The images are compressed using one of the standard formats used on faxes: MH, MR or MMR.

Note: 600 × 600 dpi in EX-FINE and MMR settings can be changed.

Many Internet Fax products offered by other manufacturers can receive only in the STD and FINE resolutions and in MH compression mode. Please note this point if sending a document to an Internet Fax of a different make, but is not be a problem if sending to the same type of Internet Fax or to a PC. This Internet Fax attaches the fixed mail text (see the next section) as it sends a fax document.

Fixed TEXT message attached to the Sending Internet FAX
When the Internet FAX is sent, the fixed message shown below is sent. The contents differ between the case when Tiff is sent and when PDF is sent. And also, when the setting of the Sender ID (email) is On and the Sender ID is already registered, then 'from The Internet Facsimile' becomes 'from [Sender ID]'.
With the SEND NOTIFICATION of the user settings, it is possible to set so that not sending this fixed message.

<When TIFF is sent>
The scanned pages attached to this e-mail have been sent from an Internet Facsimile. ¨ ([sender ID] or an Internet Facsimile.)
To view or print these pages please use the software program "Imaging" (provided with Win NT4.0/ ME/00/98/95 OSR 2) or "Windows Pictures and Fax Viewer" (provided with Windows XP).

Imaging, Windows NT4.0, Windows 95, Windows 98, Windows Me, Windows 2000, Windows Pictures and Fax Viewer, and Windows XP are registered trademarks of US Microsoft Corporation.

<When PDF is sent>
There are scanned pages attached to this e-mail which have been sent from ([Sender ID] or an Internet Facsimile.)

Subject
With using the Email key, it becomes available to enter the Subject individually. And also, when the setting of the Sender ID (email) is On and a Sender ID is registered and the Subject is not entered at the drive operation, then:
the Subject of the sending mail of the Internet FAX is sent as 'Internet FAX Message from [Sender ID] style.

From:
With using the Email key, it is available to specify address individually into the Email Header From: address. The default is the Email address of its own machine.

Tiff viewer
In order to view Tiff files sent by this fax machine, it is necessary to have a Tiff Viewer installed on the PC. Microsoft Windows 95, 98, Me, NT4.0 and 2000 have a viewer called Imaging, through which Tiff files can be viewed.
Tiff files can be displayed with "Windows Pictures and Fax Viewer" in WindowsXP.

Note: Before printing a Tiff file from Imaging, go to OPTIONS in either the Print screen or in Properties and set the Print format to "Fit to Page". If it is set at "Actual size", part of the fax image may be cut off from the print out.

PDF
It is available to see the PDF being sent by the Internet FAX with Acrobat Reader 3, 4 or 5.

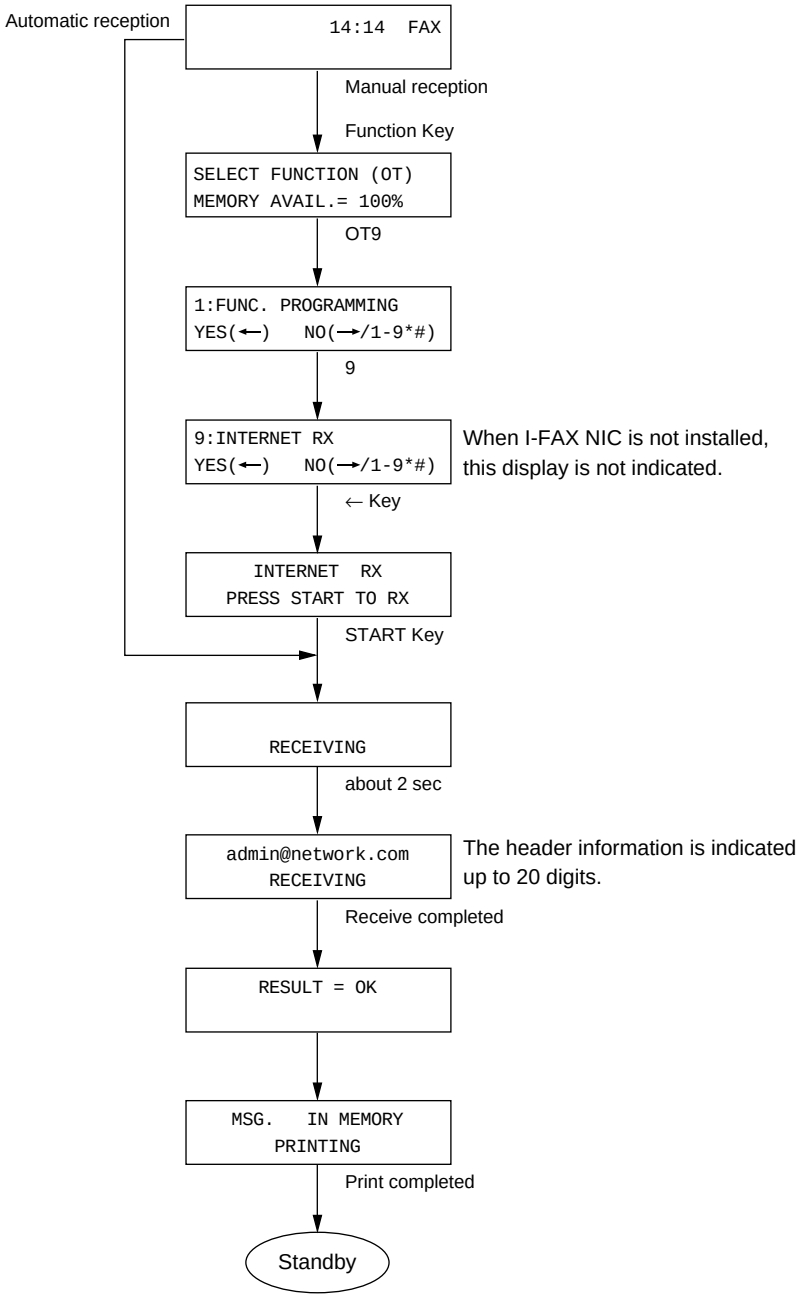
Note: PDF can not be received by the Internet Fax.

2.11 Internet fax reception

This fax machine automatically connects to the server to receive mail according to the POP INTERVAL TIME setting. If there is mail on the server, reception will start automatically. If there is more than one mail message, it will receive all the messages and print them out.
Manual reception of mail is done by selecting FUNCTION.
If automatic reception takes place and there is no mail, no record of the transaction will be made. In the case of manual reception, service code F941 will be recorded if there is no mail.

Note 1: Internet Fax receives mail in memory. Check to make sure that there is a sufficient free memory space to receive fax messages. If there is not, reception of a message may be terminated before reception is completed.

Note 2: The size of TIFF that can be received with Internet Fax is approximately half the size of the memory capacity.
Memory full may generate when receiving a large size original. In such a case, have the original divided and sent.



2.12 Receiving Tiff file

This machine receives mail messages with Tiff-format attachments in the mail server and prints out the attached files. This machine can print out Tiff files in the Simple Mode defined in ITU-T T.37. It can also receive files at the 300 × 300dpi or 200 × 400dpi resolution when expanded, and files in MR or MMR compression mode. It cannot print out files of any other Tiff-formats, and if it receives such as file, a communication error will occur and an error report will be printed.

Note: The Tiffs available to be received by the Internet FAX are the Tiff Profile-S and the followings.

a. The ones with the resolution of 200 × 400, 300 × 300.

b. Tiffs made by Imaging of Microsoft.
(However the ones other than that the encoding style is CCITT Group3(1d) FAX, that the manuscript main scan bit value is more or less than the one stated by the T.4, can not be received.)

Note: The ones available to be received by the Internet FAX are the Emails that contain Tiff or TEXT, but if the MIME format is like followings, then they can not be received.

a. The ones with the attached Tiffs that are using Encoding style other than Base64.

b. The ones with the mail TEXT encoded.

c. The ones with the Tiff Content-type other than the image/Tiff (the format stated in the Internet FAX) and the application/octet-stream (Note*a).
When a mail is sent from the mailer to the Internet FAX, please specify the encoding style of the MIME to the Base 64.

Note*a: MS Outlook2000 sends TIFF files using the format of the Content-Type : application/octet-stream. This format is used also when the TEXT from the Lotus Notes is attached to the sending mail.
Thus, it supports the Content Type of this style.
Also, in case of Content-Type : application/octet-stream, both types of attachment and inline format of the Content-disposition can be received, and it refers the file name existing there.
If the extension of the file name is ".txt" or ".tif"(".tiff") then each will be printed out.
Other extension files will not be printed out.

Note: In case when the TEXT format is encoded by another format like Base64 and the like, then it will not be decoded and will be printed out as it is.

2.13 Receiving text

Body text of an e-mail can be printed by turning the TEXT PRINT setting ON. E-mail from an Internet Fax often comes with added messages (text) before and after the Tiff file and this function can be used to print these messages out. The table below shows the characters that can be printed out by this machine.

	00	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0
0			SP	0	@	P	‘	p								
1			!	1	A	Q	a	q								
2				2	B	R	b	r								
3			#	3	C	S	c	s								
4			$	4	D	T	d	t					Ä		ä	
5			%	5	E	U	e	u								
6			&	6	F	V	f	v						Ö		ö
7				7	G	W	g	w								
8			(	8	H	X	h	x								
9			)	9	I	Y	i	y								
A			*	:	J	Z	j	z								
B			+	;	K	[	k	{								
C			,	<	L	\	l	|						Ü		ü
D			-	=	M	]	m	}								
E			.	>	N	^	n	~								
F			/	?	O	_	o							ß		

To print out the information in the mail header, set TEXT PRINT to ON. This fax machine can print only plain format text that has not been encoded by Base64 etc. If e-mail messages or text-file attachments have been encoded, printouts may be garbled.

2.14 Network scanner

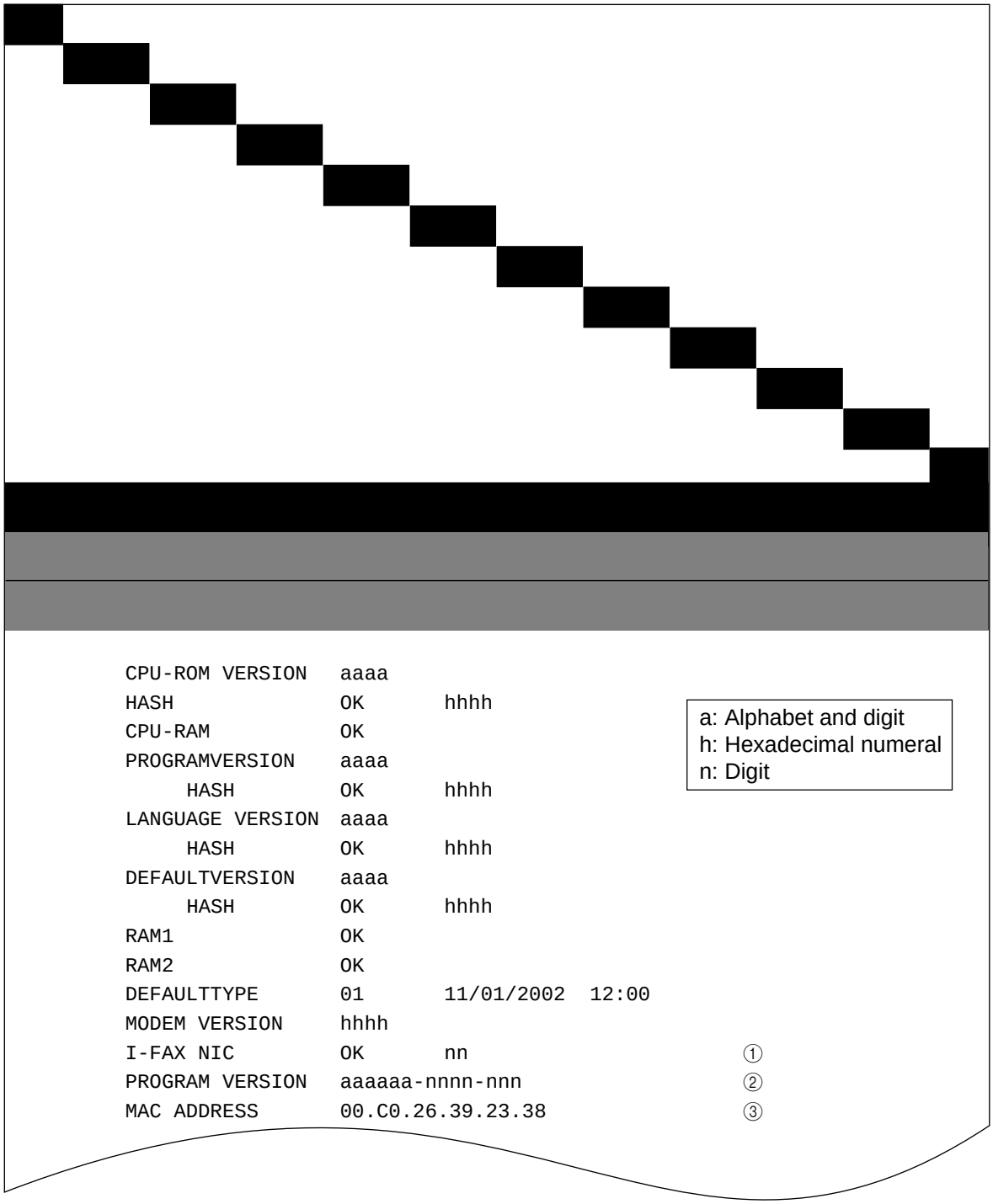
This fax machine can be used as a network scanner. Scanning is carried out as if sending an Internet Fax, but specifying the email address to which the scanned document should be sent. The recipient of the transmission, then receives the document on their PC as a TIFF file. Resolution of the TIFF file can be set to a maximum of 600 ¥ 600 dpi in EX-FINE mode to create a high-quality scanned image file.

Note: The resolution of the scanned image can be set between 300 and 600 dpi through the user function EX.FINE MODE in I-FAX NIC SETTING.

When using this fax machine as a scanner, set 90:SENDER ID (EMAIL) to OFF so that the sender ID will not be added at the top of the document.

3. Explanation of Self-diagnosis Report on NIC

An example of a self-diagnosis report when a NIC is installed is shown below.
In this case, ① ~ ③ shown in the picture are additionally displayed.



```
CPU-ROM VERSION   aaaa
HASH              OK       hhhh
CPU-RAM           OK
PROGRAMVERSION    aaaa
     HASH         OK       hhhh
LANGUAGE VERSION  aaaa
     HASH         OK       hhhh
DEFAULTVERSION    aaaa
     HASH         OK       hhhh
RAM1              OK
RAM2              OK
DEFAULTTYPE       01       11/01/2002  12:00
MODEM VERSION     hhhh
I-FAX NIC         OK       nn                    ①
PROGRAM VERSION   aaaaaa-nnnn-nnn                ②
MAC ADDRESS       00.C0.26.39.23.38              ③
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

① "OK" is displayed for normal NIC operation; "NG" and factors are displayed in a 2-digit numeral for abnormal NIC operation.
01: Failure of I/F operation check
02: Failure of NIC operation check

② The NIC version is displayed.
aaaaaa-nnnn-nnn
The first 6-digit alphabet/numeral "aaaaaa" indicates the NIC firmware version.
The second 4-digit numeral "nnnn" indicates the NIC boot block version.
The last 3-digit numeral "nnn" indicates the NIC hardware version (561 or 661).

③ The MAC address of a NIC is displayed.

4. NIC Firmware Update Methods

Note: Attention] Generally updating of a NIC firmware is not necessary, but it shall be executed whenever necessity arises to cope with problems and such. In that case, be sure to update the version with full understanding of this manual.

1. General Outlines

   A NIC firmware can be updated by receiving e-mail.

   To be specific, when a firmware is sent to a FX-046VP by e-mail, the firmware is automatically updated as the FX-046VP is receiving POP.

2. Procedures

   ① Provide a NIC firmware file.

   Configuration of a name of a NIC firmware file is as follows.

   Example) I5L702P01.imz
   "I": Fixed letter
   Following numeral: NIC hardware version (5 or 6)
   "L": Fixed letter
   "702P01": Firmware version

   There are two types in the NIC, and they are distinguished by the second first character.

   Numeral "5": Hereinafter referred to as Type A.

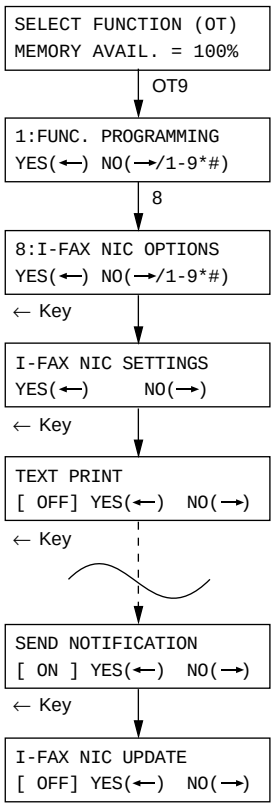
   Numeral "6": Hereinafter referred to as Type B.

   I5L702P01.imz → Type A
   I6L702P01.imz → Type B

   For updating a NIC firmware, output a self-diagnosis report by a FX-046VP used for updating. Then check the hardware version indicated in a 3-digit numeral and is next to PROGRAM VERSION in the report. The numeral 561 is Type A, and the numeral 661 is Type B. Be note that only a firmware, whose hardware version type is the same to that of the device, can be updated.

   ② In user-selectable settings, select YES of I-FAX NIC SETTINGS, follow procedures and change the setting to ON of I-FAX NIC UPDATE. (See Operation Flowchart.)

Note: This setting is automatically reset to OFF at the completion of firmware updating. Be sure to leave the setting OFF always.



Operation Flowchart

③ Send the provided firmware file to the FX-046VP by e-mail.

For sending the firmware file, enter the characters, which are specified later on, into Subject and text, and then attach the firmware file to e-mail and send it via mail clients, such as Netscape Messenger, Outlook and Outlook Express.

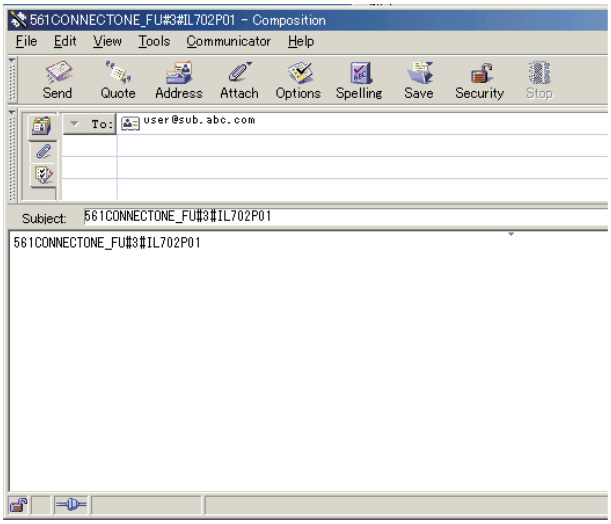
Caution:Among mail clients, proper functioning of Netscape Messenger, Outlook and Outlook Express are confirmed, but those of other mail clients are out of guarantee. When sending e-mail, be sure to select TEXT format from sending formats. Keep in mind that the default set sending format of Outlook and others is HTML format.

[Type A]

In Subject and text, enter
561CONNECTONE_FU#3#I<L and following characters of the firmware file name>
and then send it.

For example, if the file name is I5L702P01.imz, enter
561CONNECTONE_FU#3#IL702P01.

An example with Netscape Communication 4.73 is shown in Plate 1.



[Type B]

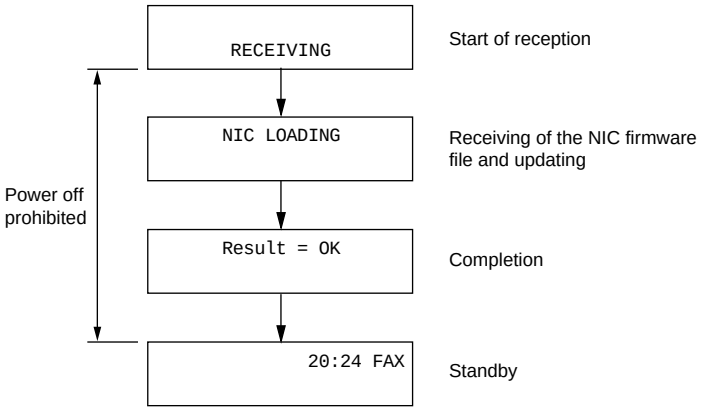
In Subject and text, enter
661CONNECTONE_FU#3#I<L and following characters of the firmware file name>
and then send it.

For example, if the file name is I5L702P01.imz, enter
661CONNECTONE_FU#3#IL702P01.

④ Receive e-mail with the FX-046VP.

Following indications are displayed as the FX-046VP receives the NIC firmware file. When the update of the firmware completes, a result appears.

It takes about 4 minutes for updating.



Warning: Never turn off the power until the result is displayed. Otherwise, the NIC firmware file may crash and become incapable to boot up.

⑤ Print out a self-diagnosis report and check the version of the NIC firmware.

⑥ Delete “the e-mail attached with the NIC firmware file is attached” from the server Mailbox of the FX-046VP.

Caution: The e-mail attached with the NIC firmware file” remains in the mail server after it is received in the FX-046VP. Be sure to delete “the e-mail attached with NIC firmware file”, which remains in Mailbox of the FX-046VP, using mail clients, such as Netscape Messenger, Outlook and Outlook Express.

3. Important

① Concerning errors at the time of e-mail receiving, an improper setting of POP server or such is a probable cause. Thus, confirm in the service code and check the setting etc. again.

② In the case that a NIC firmware sent to a FX-046VP is not received, a firmware is not updated or an error arises, following factors may be the cause.

a) The user-selected I-FAX NIC UPDATE is OFF.
→ Change it to ON.

b) There is a mistake in characters that were entered in Subject and text when sending a NIC firmware file.
→ Check whether the characters were properly entered.

c) Non-recommended mail clients are used.
→ As some mail clients automatically add characters into text, sometimes receiving can not be executed properly. For this reason, use Netscape Messenger, Outlook or Outlook Express recommended.

d) The selected sending format of male clients is HTML format.
→ Select TEXT format.

e) The type of the updated firmware is different from that of current firmware of FX-046VP.
→ The same type firmware is essential.

f) If an old firmware remains in Mailbox, be sure to delete it before updating a firmware.

5. Troubleshooting

5.1 Service codes

If a communication error occurs, check the service code shown on the Activity Report.

SMTP communications
The service code for a SMTP communication is prefixed with the letter E.

- 0000: Normal shutdown
- 9080: Press stop key
- E058: Failed in SMTP connection
- E074: Cable not connected
- E081: DNS cannot solve SMTP server name
- E082: No response from SMTP server
- E083: Error generated in SMTP command sequence
- E108: Transmission attempted when destination was not set
- E109: Transmission attempted when mail address of own device not set
- E110: Transmission attempted when SMTP server not set
- E401: Communication was attempted when the IP address of the own device was not set.
- E942: Command timeout
- E990: Other error
- EF00: Option board I/F error

Note: For service codes E001 and E002, the number of pages in the report will be left blank.

POP3 communications:
On this fax machine, the codes will be prefixed with the letter F.

- 0000: Normal shutdown
- F001: Normal shutdown (only text received)
- F002: Normal shutdown (only text received but cannot print)
- F059: Failed in POP connection
- F074: Cable not connected
- F076: DNS cannot solve POP server name
- F077: No response from POP server
- F078: Incorrect POP user name/password
- F079: Error generated in POP command sequence
- F105: Reception attempted when POP server was not set
- F106: Reception attempted when POP user name was not set
- F113: Failed in updating NIC firmware
- F401: IP address not set
- F931: Unreceivable e-mail (TIFF NG)
- F932: Unreceivable e-mail (other than TIFF NG)
- F940: Memory full
- F941: When mail does not exist in server upon manual reception
- F942: Command timeout
- F990: Other error
- FF00: Option board I/F error

Note: For service codes F001 and F002, the number of pages in the report will be left blank.

5.2 Transmission troubleshooting

Transmission fails; a communication error occurs.
- Are the IP ADDRESS, SubNet Mask and Default Gateway settings correct?
- Has the SMTP server been configured correctly?
- If using DNS, is the DNS server address correct?
- Check to make sure that the server is not down.
- If DNS is ON, some servers may cause an error.

When one-touch key is pressed with an email address assigned, a warning message appears on the LCD.
- Has an e-mail address been entered that has been assigned on this machine?

LCD shows message “OPTION BOARD ERROR”.
- A network card I/F error has occurred - turn the power off and on again to recover.

The Tiff file sent cannot be printed out on the receiver.
- Is the file sent at EX-FINE resolution or in coding mode other than MH? T.37 simple mode Internet Fax products support only the STD and FINE resolution settings and MH coding mode.

It seems that the Sender ID is added to the subject when transmitted?
- In case the Sender ID (Email) setting is ON, automatically the Sender ID set in the Internet FAX is add to the Subject and Message Body.

I want to send it by PDF.
- The selection of transmission file format either Tiff or PDF is available. Also it is available to specify with Email key by every transmission. Also, it is available to specify with the speed dial communication parameter.

I don’t want to send the message body sent by the Internet FAX.
- It is available to set it with the user setting so the message body (fixed) sent by the Internet FAX will not be sent.

I want to send by address of CC:.
- It is not available to specify the sending address as CC.

5.3 Reception troubleshooting

Reception fails; a communication error occurs.
- Are the IP ADDRESS, SubNetMask and Default Gateway settings correct?
- Has the POP server been configured correctly?
- If using DNS, is the DNS server address correct?
- Is the USER ID correct as registered on the POP server?
- Is the password correct as registered on the POP server?

Reception does not start.
- Has the POP interval been set at OFF?
- Is there a sufficient free memory space? Images have to be first stored in memory and cannot be received if there is not enough space.

When receiving data manually, a warning message appears on the LCD.
- Is the POP server and USER ID registered?

The LCD shows message OPTION BOARD ERROR.
- A network card I/F error has occurred - turn the power off and on again to recover.

A communication error occurs during reception, and a report is printed out.
- The received file is not of a format supported by this machine.

Data is sent from an email client on a PC to the InternetFAX, but the reception has failed.
- Is Tiff format used supported by this Internet Fax?
- If only a text has been sent, it will not be printed out unless the TEXT PRINT setting is ON.
- Some e-mail clients send e-mail using unusual formats which this fax machine cannot receive.

The fax machine prints out a large number of meaningless characters.
- It may be printing out Base64-encoded data that the Internet FAX can not decode. If this occurs frequently, change the TEXT PRINT setting to OFF.

Communication errors occur, and service code F078 is given each time.
- The POP server password or user ID may be wrong, causing the server to return authentication errors.

Can PDF files be received?
- PDF files can be sent but it can not be received.

6. Functional Comparison Table

	OKI Printer PX711/713	FX056/176 Network Kit	FX046VP ICP
Novel			
• Netware 3.x	Yes	Yes	
• Netware 4.0 and 4.11 (NDS)	Yes	Yes	
• PServer and RPrinter	Yes	Yes	
• Auto attach/re-attach to File Server	Yes	Yes	
Microsoft			
• Windows NT 4.0/2000 (TCP/IP)	Yes	Yes	
• Windows 95/98/Me (TCP/IP)	Yes	Yes	
• Lpr/lpd support (WinNT)	Yes	Yes	
• NetBeui (only phase 2)	Yes	Yes	
UNIX			
• Sun Solaris 2.x/OS 4.x and higher	Yes	No	No
• SCO v2.2 and higher	Yes	No	
• AIX 3.0, BSD 4.2, HP-UX 8.x/9.x and higher	Yes	No	
Ethertalk			
• Macintosh System 6.x, 7.x and 8.x	Yes	No	
• Auto sense PhaseI/PhaseII	Yes	No	
LAN Manager/LAN server			
• LAN Manager v2.0c and higher	Yes	No	
• LAN Server v1.3, 2.x, 3.x	Yes	No	
DEC			
• DEC VMS - all versions (LAT)	Yes	No	
• SMTP TX	Yes	Yes	Yes
• SMTP RX	Yes	Yes	No
• POP3	Yes	Yes	Yes

APPENDIX H FLATBED SCANNER (Avision Inc.:DS310F) TROUBLESHOOTING

1. CONNECTION

DS310F made by Avision Inc. is the only flatbed scanner that can be connected to FX-046VP.

As for the software CD attached with the DS310F and DS310F main unit, please refer to the manual for DS310F or contact Technical Support in Avision Inc. for details.

Technical Support

AVISION INC.
No.20, Creation Rd. I, Science-Based
Industrial Park, Hsinchu 300,
Taiwan, R.O.C.
TEL: +886 (3) 578-2388
FAX: +886 (3) 577-7017
Web Site: http://www.avision.com.tw
E-mail: service@avision.com.tw

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1.1 An error occurs when the power for DS310F is turned ON.

> Is the status of the lock switch for used during transport locked?

Disconnect the power cable from the power jack to turn the power OFF, then set the lock switch at the bottom of the DS310F main unit to “Unlock”. Refer to the manual for DS310F regarding the position and how to set the lock switch.

> Is DS310F connected to the computer properly?

Check if the printer cable is connected to the port marked “TO PRINTER” on the back of DS310F and the centro port of FX-046VP.

> Is the power of FX-046VP turned ON?

Turn the power of FX-046VP ON.
An error will appear on the DS310F LCD if the power of the printer connected to the “TO PRINTER” port for DS310F is turned OFF or if the printer cannot receive due to an alarm, etc.

1.2 FX-046VP does not function even when the “Copy” button on DS310F is pressed.

> Are connections accurate?

Connect securely to FX-046VP with a printer cable.
→ Refer to “1.1 An error occurs when the power for DS310F is turned ON”.

> Is FX-046VP set properly?

Confirm that user function No. 33 “OPTION I/F MODE” is set to SCN. or NET. Functions connected with DS310F are disabled if connection is made to MFPI, therefore, reconnect to SCN. or NET. Furthermore, if the setting is changed, turn OFF the power of FX-046VP once, and then turn it ON again.

> Is DS310F set properly?

Copying is disabled on the FX-046VP side if DS310F is set as in the table below, therefore, change it to a valid setting.

Item	Invalid Setting	Valid Setting
Printer Select	PJL/PCL PJL/PCL DUPLEX ESC/PAGE ESC/PAGE-C	PCL Emulation
Normal/Quality	Quality	Normal

Refer to the DS310F manual for details on each item.

If “Normal/Quality” is set to “Quality”, [DATA ERROR] will appear in the LCD on the FX-046VP side and image data received from DS310F will be discarded.
Furthermore, if “Printer Select” is set to an item other than “PCL Emulation”, operation will not be guaranteed with FX-046VP.
To be specific, the received image data from DS310F may not be printed or come out garbled.

> Is an error generated in FX-046VP?

If the ALARM LED on FX-046VP is illuminating, release the error according to the “7.3 Alarm LED On” section in the Maintenance Manual.

> Is FX-046VP connected to the PC?

Refer to Clause 4.

2. FLATBED COPY FUNCTIONS

2.1 Nothing is printed as a result of copying or only a few dots are printed.

> Is an original set in DS310F?

Set an original if none is set.
The rear side of the document cover is read when reading is attempted without setting an original, therefore, the result will come out in white.

> Is the side of the original you wish to print faced down?

Set the original so that the side you wish to print is facing down.

> Is the “Lighter or Darker” setting for DS310F set properly?

Press the “Lighter/Darker” button and increase the darkness level.

2.2 The copied image is dark, or the background color or the rear side of the original is printed.

> Is the “Lighter or Darker” setting for DS310F set properly?

Press the “Lighter/Darker” button and decrease the darkness level.

> Is the “Background Remove” setting on DS310F set to OFF?

If there is a color background in the original, press the “Background Remove” button and change the setting to ON. For details, refer to the DS310F manual.

> Is the original so light that the rear side can be seen through?

When copying a light original, the image on the rear side or the stacked page may appear. This can be prevented by setting a black paper or board on top of the original.

2.3 The copied image is larger or smaller than the original.

> Is “enlargement/reduction” set to 100% in DS310F?

Set to 100% by pressing the “Reduce/Enlarge” button.
For details, refer to the DS310F manual.

2.4 The copied image is shrunk or only half of the image is printed in the vertical direction.

> Is the paper size set in DS310F the same as the size set in FX-046VP?

If the image data received from DS310F does not fit in one page, FX-046VP reduces the image in the vertical direction to fit the image in one page. Therefore, the setting for “Paper Size” in DS310F must match with user function No.13 “PAPER SIZE” in FX-046VP.
A4, Letter, and Legal are the three sizes that can be selected in DS310F. The length of Legal is 14 inches.

> Is “HALF SIZE SCAN” in FX-046VP set to ON?

If user function No. 38 “HALF SIZE SCAN” is set to ON, FX-046VP prints only the upper half section of the image received from DS310F and the lower half is not printed.
Therefore, change this setting to OFF.

2.5 The copied image is deviated, skewed, or certain portions are not printed.

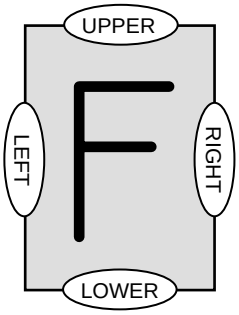
> Is the guide-paper position that sets the recording paper in FX-046VP accurate?

Check that the position of the guide-paper in the tray is adjusted to the recording paper size set in user function No. 13 “PAPER SIZE” for FX-046VP. Also confirm that there is no bent recording paper set in the tray.

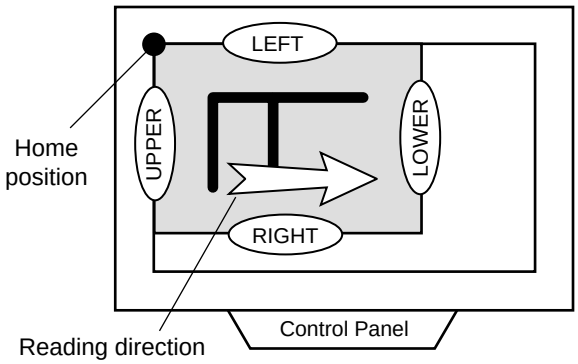
> Is the original in DS310F set properly?

The original must be set straight when viewed from the front of DS310F, set against the deep left edge of the document glass.

Original



Position to set an original on the Flatbed Scanner



> Is the original set in DS310F skewed?

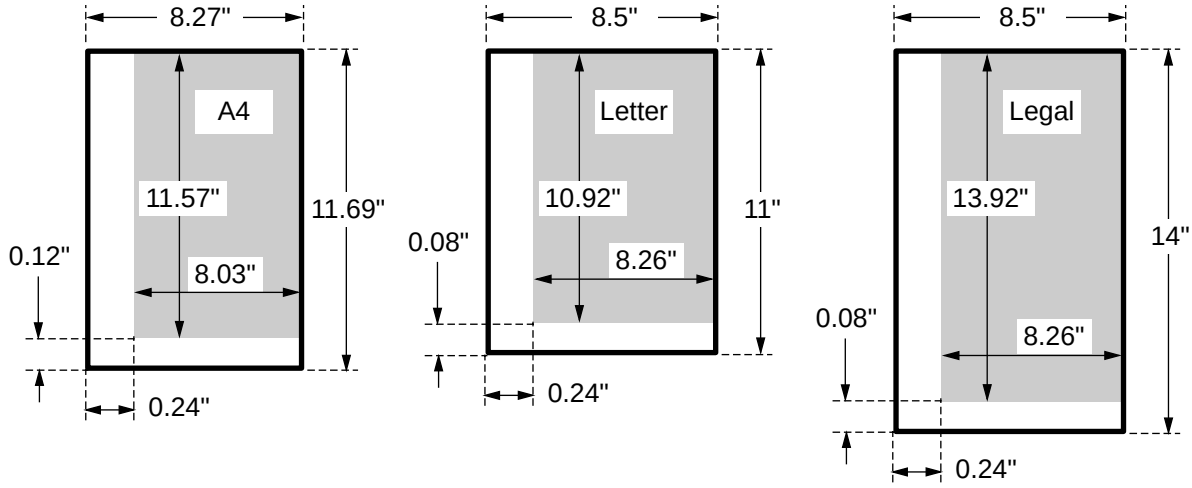
The read range in DS310F will become narrow if the original is skewed, therefore, set it straight. Furthermore, close the cover for DS310F slowly so that the original does not move.

> There are sections that cannot be captured by DS310F.

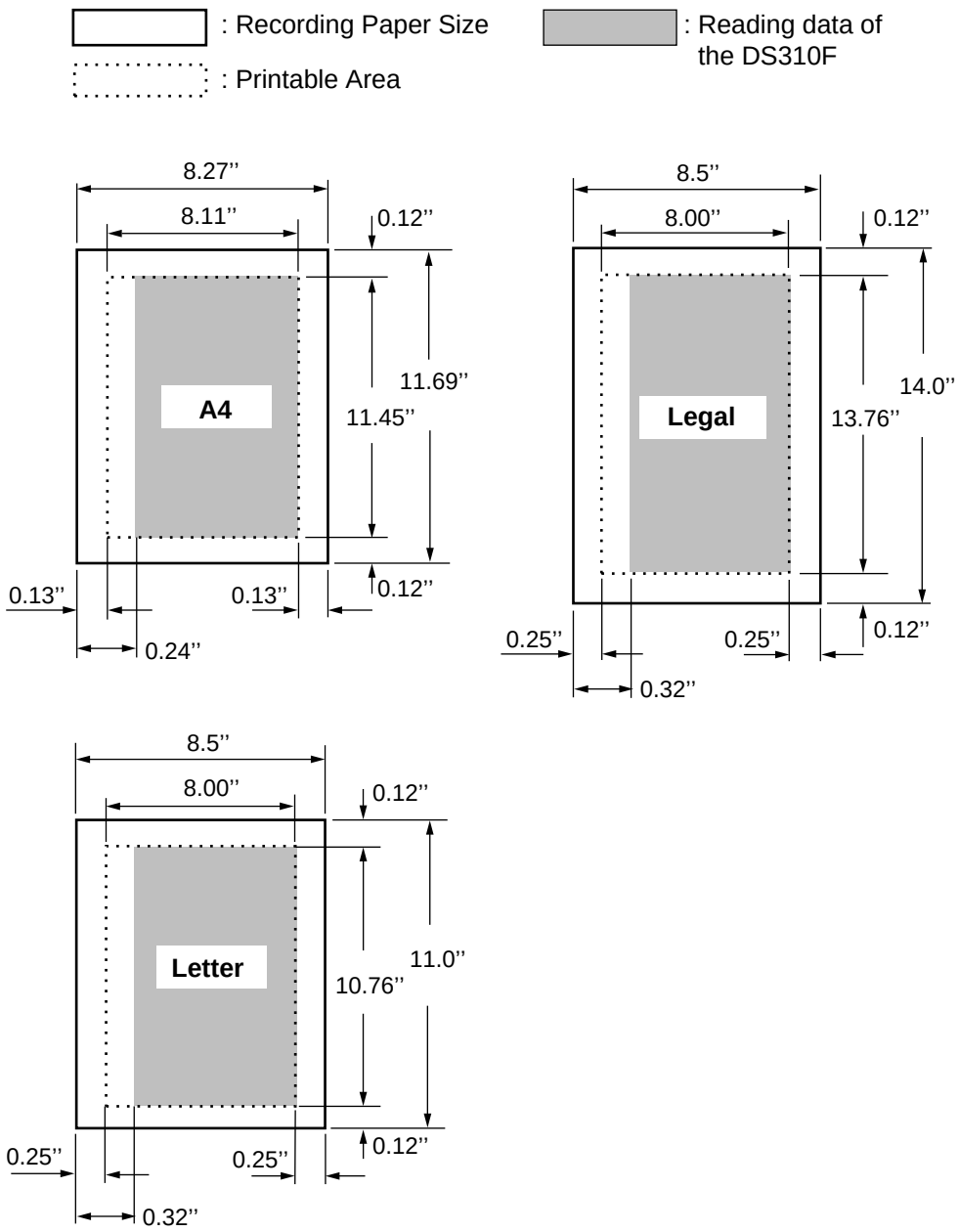
The following ranges cannot be read with DS310F depending on the size of the original. (DS310F specification)

Scale	Edge	Original size you select in DS310F		
		A4	Letter	Legal
100%	Upper	Possible from the upper.	Possible from the upper.	Possible from the upper.
	Lower	Approx. 0.12" (3mm) from the lower is not read.	Approx. 0.08" (2mm) from the lower is not read.	Approx. 0.08" (2mm) from the lower is not read.
	Left	Approx. 0.24" (6mm) from the left edge is not read.	Approx. 0.24" (6mm) from the left edge is not read.	Approx. 0.24" (6mm) from the left edge is not read.
	Right	Possible to the right edge.	Possible to the right edge.	Possible to the right edge.

Reading area (inch)



The printable areas in FLATBED COPY mode is the following.



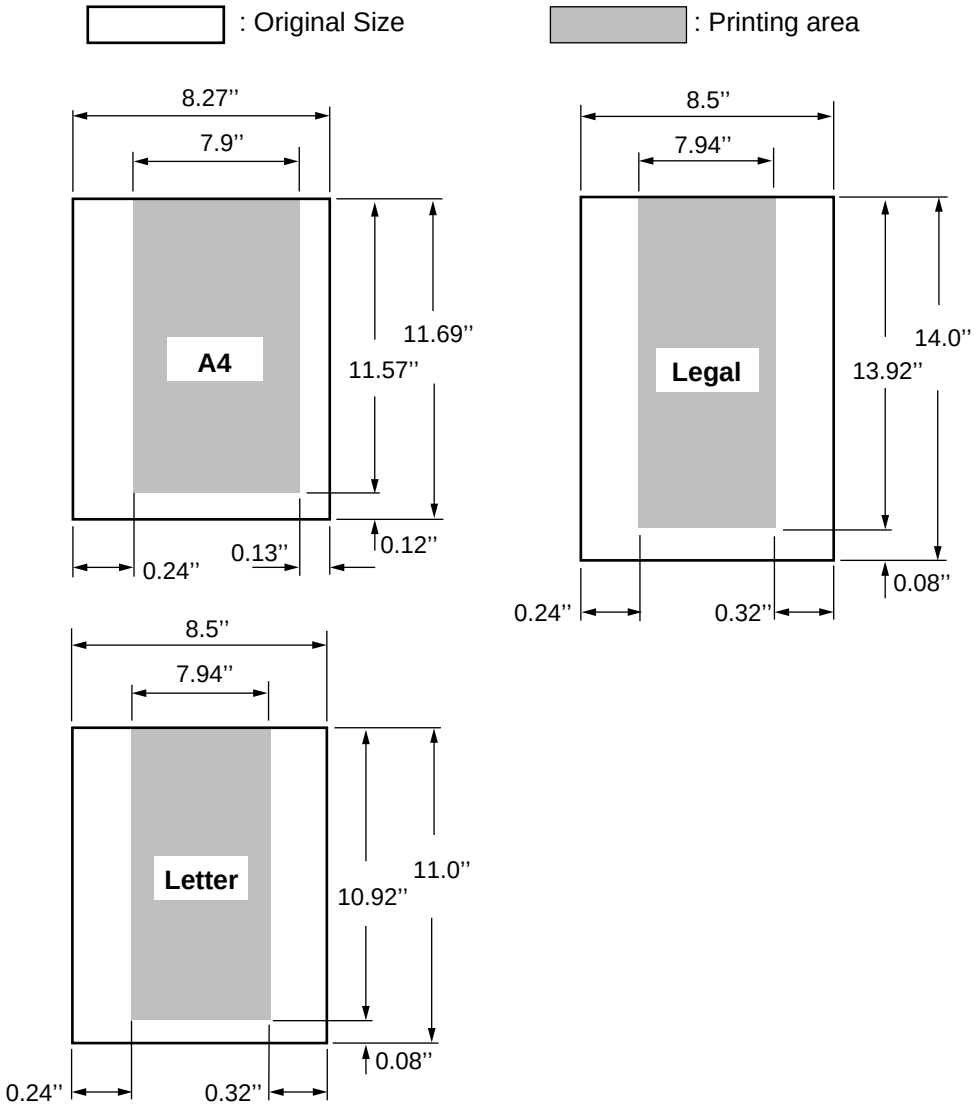
Because DS310F does not read 0.24" (6mm) from the left edge of the original, it adjusts print position by providing margin at the left edge of recording paper with reference to A4 size.

In sub-scan direction, the image is variably scaled down so that all the ranges that DS310F reads can fit the printable area of the recording paper.

The following table shows DS310F's reading original sizes and scales with recording paper in FX-046VP.

Recording paper size you select in FX-046VP	Original size you select in DS310F		
	A4	Letter	Legal
A4	99%	Almost 100%	83%
Letter	93%	99%	77%
Legal (13)	Almost 100%	Almost 100%	92%
Legal (14)	Almost 100%	Almost 100%	99%

As a result, FLATBED COPY actually prints the following ranges of the actual reading original.



When DS310F's reading results in stretched image in main scan direction, the equivalent right edge of the read original is not printed because the print start position in the main scan direction is fixed.

The following table shows the missing area at the original right edge for each image stretch rate.

Image stretch rate	Letter original width : Image stretch size	Letter original right edge : missing area
0.5%	0.042" (1.079mm)	0.363" (9.21mm)
1%	0.085" (2.159mm)	0.405" (10.29mm)
1.5%	0.128" (3.239mm)	0.448" (11.37mm)
2%	0.17" (4.318mm)	0.49" (12.45mm)

In case of FLATBED TX mode, all the ranges read by DS310F are transmitted.

Printable area of a remote machine depends on the specification of the remote machine.

If you wish to read the original from the left edge, set the original by leaving a space of 0.24" (6mm) or more on the top section of the document glass. However, an area worth the same spaced will be left out from the right side of the original.
Furthermore, by pressing the “Reduce/Enlarge” button on DS310F and setting the value to below 100%, the size of the printed image will be reduced, however, the read range may broaden.

2.6 To increase the quality of a printed image.

> Does the focus setting for DS310F match the image type of the original?

The quality of a printed image may improve by adjusting the “Auto/Text/Photo” setting to the nature of the original.
For details, refer to the DS310F manual.

> Is the “Lighter/Darker” setting in DS310F appropriate?

Press the “Lighter/Darker” button and adjust the level.

> The resolution for printing with FX-046VP is fixed at 300DPI.

The resolution of an image data received from DS310F is fixed at 300DPIx300DPI.
Copying cannot be performed at a different resolution.

2.7 “copy count”.

> “Copy count” can be set in a range of 1 to 99 pages with DS310F.

With FX-046VP, the same number of pages set in the “copy count” setting in DS310F can be printed for the same original. The currently printed page number will be indicated on the top line of the FX-046VP LCD.
Even if paper-end or paper jam occurs while printing, the remaining pages will be printed after recovery.
For details on the “copy count” setting for DS310F, refer to the DS310F manual.

2.8 The “Stop” key on FX-046VP was pressed to discontinue the copy operation while reading from DS310F, however, the indication remained at “STOPPED”.

> Is the read operation being continued for the one original with DS310F?

When the “Stop” key is pressed while receiving data from DS310F, FX-046VP continues to display “STOPPED” until image data for one original is received.

Therefore, if DS310F continues to read, the indication will change to standby when reading is complete.

However, if reading is discontinued, for example, when the DS310F power is turned OFF, image data for one original will not be sent to FX-046VP, and the display will change to standby when a specified time exceeds from the time the image data was disconnected. The time can be set with user function No. 35 “PRINT JOB T.O.” and can be selected from “5SEC”, “30SEC”, or “5MIN”.

2.9 Meaningless characters or symbols are printed. (Characters are garbled.)

> Is the printer cable disconnected?

Confirm that a printer cable is connected securely to FX-046VP and DS310F.
→ Refer to “1.1 An error occurs when the power for DS310F is turned ON”.

> Is print being performed from the PC?

When copy is being performed while printing from the PC by connecting FX-046VP to the PC via DS310F, print data from the PC and reading image data from DS310F will be mixed, therefore, garbled characters will be printed.
Press the “Copy” button on DS310F after data has been printed from the PC.
→ Refer to “4. Downloading Print”.

> Did you turn OFF the power of the DS310F during reading? Or, did you stop a copy by pressing the "STOP" key on FX-046VP during reading?

Read image data from DS310F remains in a half-finished status.
Turn ON the power of DS310F and FX-046VP again.

2.10 The set content returns to its prior status even when changing the setting with DS310F.

> The following restrictions exist for operating DS310F.

The contents for “Printer Select” and “Paper Size” settings are saved even when the power of DS310F is turned OFF, however, other settings are returned to their initial status in the following conditions.

- When the “All Clear” button is pressed.
- When the power is turned OFF.
- When approx. one minute exceeds after ceasing operating while changing the setting. → Returns to a standby status.

The initial values are listed below.

Item	Initial Value
Copy Count	1
Auto/Text/Photo	Photo
Normal/Quality	Normal
Lighter/Darker	The fourth level
Reduce/Enlarge	Ratio:100%
Background Remove	on

3. FLATBED FAX TX FUNCTIONS

3.1 The “FAX TX” function cannot be selected with FX-046VP

The “FLATBED FAX TX” function must be selected in FX-046VP in advance in order to apply the function, however, check the following items if the function cannot be selected.

> Is there a problem with the FX-046VP setting?

Check if user function No. 33 “OPTION I/F MODE” is set to SCN. or NET.
→ Refer to “1.2 FX-046VP does not function even when the “Copy” button on DS310F is pressed”.

If technical function No. 35 “LEASED LINE” is set to ON, the “FAX TX” function cannot be selected as the destination for transmission does not have to be selected.
Change this setting to OFF.

Furthermore, if technical function No. 26 “RESTRICT ACCESS” is set to ON, a password must be input in order to release operational restrictions. The “FAX TX” function can be selected as usually after the restrictions are released by inputting a password.
However, a password cannot be input while a different operation such as data reception or auto report print is being performed, thus, operational restrictions cannot be released. Therefore, release operational restrictions after the operation that is currently running ends, then select the “FAX TX” function.

> Is an original set in the ADF of FX-046VP?

The “FAX TX” function cannot be selected if an original is set in the FX-046VP ADF. Select the destination for transmission after removing the original in the ADF.

> Is print being performed from the PC?

The “FAX TX” function cannot be selected while printing from the PC by connecting FX-046VP to the PC via DS310F. Operate FX-046VP after the print operation from the PC is finished.
→ Refer to “4. Download Print”.

> Is an error generated in FX-046VP?

If the Alarm LED in FX-046VP is illuminating, release the error according to the contents in “7.3 Alarm LED On” in the Maintenance Manual.

3.2 The “FAX TX” operation does not start.

>Is the status standing by for the next original?

As more than one original are sent in one batch with FX-046VP, an operation for moving to the “FAX TX” operation is required when the final original is read.
The “FAX TX” operation will begin by pressing the “Start” key with “FLATBED FAX TX” displayed in the top line and “PRESS START” displayed in the bottom line of the FX-046VP LCD.
If the indications in the LCD are the same, the “FAX TX” operation will begin automatically even without pressing the “Start” key when the time for standby set in user function No. 37 “FLATBED TX T.O.” is exceeded.
“OFF”, “30SEC”, or “1MIN” can be selected for “FLATBED TX T.O.”. When “OFF” is selected, no time will be displayed for standby and the “FAX TX” operation will start right after receiving image data for one page from DS310F.

> Was a certain length of time required for setting an original in DS310F after selecting the “FAX TX” function?

FX-046VP stands by to receive reading image data from DS310F by selecting the “FAX TX” function, however, when one minute exceeds in the same state, it stands by after releasing the selecting for the “FAX TX” function.
For this reason, press the “Copy” button on DS310F and start reading within one minute after selecting the “FAX TX” function.

> Is an error generated in FX-046VP?

There is a problem with the DS310F setting if “DATA ERROR” is displayed in the bottom line in the FX-046VP LCD.
→ Refer to “1.2 FX-046VP does not function even when the “Copy” button on DS310F is pressed”.

If the ALARM LED on FX-046VP is illuminating, release the error according to the “7.3 Alarm LED On” section in the Maintenance Manual.

3.3 The resolution cannot be changed.

> The “YES” key of FX-046VP that indicates resolution is invalid.

The “Yes” key (PHOTO/EX-FINE/FINE/STD) that indicates the resolution is invalid while “FAX TX” is functioning. Therefore, the resolution LED is not displayed.
The resolution for when “FAX TX” is functioning can be changed with user function No. 36 “FLATBED TX Mode” setting. When “FINE” is selected, the resolution is set to 300 x 300dpi, and the resolution is set to 8 x 7.7 line/mm when “STD” is selected.
However, the resolution may be changed at 8x3.85 line/mm if the connected device does not comply with the resolution.

3.4 The density cannot be changed.

> The “No” key of FX-046VP that indicates the density is invalid.

The “No” key (LIGHT/NORMAL/DARK) that indicates the density level is invalid while “FAX TX” is functioning. Therefore, the density LED is not displayed.
Adjust the density when “FAX TX” is functioning by pressing the “Lighter/Darker” button on DS310F.

3.5 To shorten the time for communication.

> Is user function No. 36 “FLATBED TX MODE” in FX-046VP set to “FINE”?

Transmission is made by decreasing the resolution when user function No. 36 “FLATBED TX MODE” in FX-046VP is set to “STD”. This decreases the amount of transmitted data by approximately two-fifths, thus shortening communication time. The quality of the transmitted image, however, will drop.

> Is user function No. 38 “HALF SIZE SCAN” in FX-046VP set to “OFF”?

When the original set in DS310F is smaller than the original size set for “Paper Size”, or if you wish to send only the top section of an original, set user function No. 38 “HALF SIZE SCAN” in FX-046VP to ON so that only the top section read and transmitted.
This decreases the amount of transmitted data by a maximum of approximately one-half, thus shortening communication time.

3.6 Can transmission be made right after an original is read in DS310F?

> Is user function No. 37 “FLATBED FX T.O.” in FX-046VP set to “OFF”?

If only one original is constantly subject to FAX TX, the “FAX TX” operation can be started right after receiving image data for one page from DS310F by setting user function No. 37 “FLATBED FX T.O.” in FX-046VP to “OFF”
However, two or more originals cannot be sent in one transmission when this function is set to OFF.

3.7 The “copy count” function is not applied in the “FAX TX” function.

> The “copy count” function set in DS310F is neglected while “FAX TX” is functioning.

As two or more same originals do not have to be sent to a same destination with the “FAX TX” function, “copy count” will always be considered as one page even when set to two pages or more.

3.8 Image quality when using “FAX TX”.

> Refer to the following sections.

2.1 Nothing is printed as a result of copying or only a few dots are printed.
2.2 The copied image is dark, or the background color or the rear side of the original is printed.
2.3 The copied image is larger or smaller than the original.
2.4 The copied image is shrunk or only half of the image is printed in the vertical direction.
2.5 The copied image is deviated, skewed, or certain portions are not printed.
2.6 To increase the quality of a printed image.
3.3 The resolution cannot be changed.

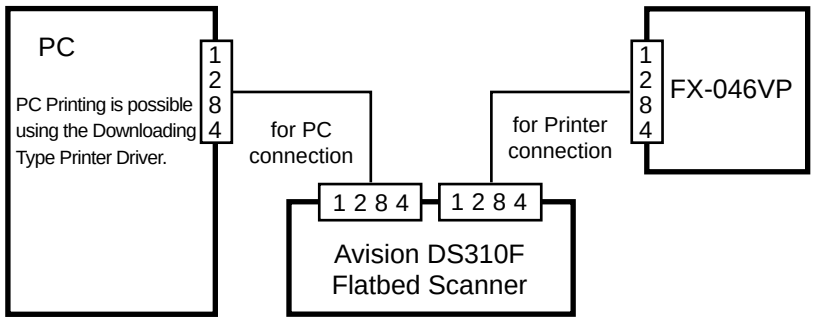
3.9 The “Stop” key on FX-046VP was pressed to discontinue the FAX TX operation while reading from DS310F, however, the indication remained at “STOPPED”.

> Refer to the following section.

2.8 The “Stop” key for FX-046VP was pressed to discontinue the copy operation while reading from DS310F, however, the indication remained at “STOPPED”.

4. DOWNLOADING PRINT

This section describes the function for printing from a PC when FX-046VP and the PC are connected via DS310F as shown below.
In reference to a printer driver, the only Downloading Type is operational; a MFPI Driver is not operational.



It is assumed that a Downloading Type Printer Driver is installed normally.

4.1 Printing from the PC is disabled or the print result is not normal.

> Is the original being read by DS310F?

If printing is attempted from the PC when data is being read by DS310F, print data from the PC and reading image data from DS310F will be mixed, therefore, garbled characters will be printed.
Start printing from the PC after data has been read from DS310F and when the copying or “FAX TX” operation is completed.

> Is Status Monitor in a MFPI Driver running?

Status Monitor in a MFPI Driver is not necessary to use a Download Type Printer Driver.
If Status Monitor is running, printing data from the PC may crash.
As a result, the data may not be printed or come out garbled.
For that reason, be sure to terminate Status Monitor.

5. Other items

5.1 Can an optional ADF by set in DS310F?

An ADF set in DS310F cannot be distinguished by FX-046VP. Therefore, an ADF cannot be used when connecting with FX-046VP.
Operations cannot be guaranteed when setting an ADF and using the copy or “FAX TX” function.

5.2 A scanning function from DS310F to a PC

Refer to the DS310F Manual for detailed functions, operational procedures, etc.
Be minded that, as described in Clause 4.1, read data may crash if Status Monitor in a MFPI Driver is running. For that reason, be sure to terminate Status Monitor.